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Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Intra-peritoneal Pelvic Hæmatocele.* Clinical Lecture, delivered at the Royal Infirmary, Edinburgh, on 17th November 1882. By ANGUS MACDONALD, M.D., Physician to, and Clinical Lecturer upon the Diseases of Women, Royal Infirmary, Edinburgh.

INTRA-PERITONEAL pelvic hæmatocele, though it has attracted a considerable amount of attention since its true nature was explained in 1850 by Nelaton, is yet associated with so many difficulties in regard to diagnosis and etiology, that I have deemed it advisable to draw your attention to the subject, as we have in Ward XXVIII. at present a peculiarly good specimen of the lesion.

In addition to this one, we lately treated two cases of the affection, one a specially severe example of the lesion, and the other a mild one.

With the view of giving you a more comprehensive grasp of the subject, I propose to consider these cases at the same time, so that, in the present lecture, we shall treat of three examples of pelvic hæmatocele. You will notice, at the same time, that none of these cases are even approximately alike, but differ very remarkably both in degree and kind.

I may state preliminarily that you will find a great disparity of view among gynecologists respecting the frequency of pelvic hæmatocele. Some practitioners, in a lifetime of specialism, scarcely see a case, whilst others are constantly meeting the lesion.

It is impossible to believe that the patients of one good observer should constantly enjoy nearly complete immunity from this accident, whilst those of an equally skilfulobserver are constantly falling a prey to it. The explanation must be found in a difference of opinion as to what constitutes proof of the existence of pelvic hæmatocele. It is the old story of the knight and the parti-coloured shield.

The truth is that it is excessively difficult to distinguish between hæmatocele and certain forms of perimetritis and parametritis. Further complication is introduced into the field by the fact that women with pelvic organs already the subject of inflammation are much more apt to suffer from hæmatocele than those whose pelvic viscera are healthy, so that the diseases mentioned are apt to predispose to as well as to complicate hæmatocele.

I may mention that we shall learn in the sequel that chronic inflammation of the pelvic peritoneum, diseases of the ovaries, and of the tubes, are all specially liable to give rise to hæmatocele. But these are also very liable to set up inflammatory deposits in the pelvis, and in this way the vicious chain of disturbing complications is maintained.

Indeed, in a certain number of cases a balance of probabilities is all that can be obtained in the direction of diagnosis. Tapping will usually settle the point; but, when possible, it is better to avoid tapping, as indeed all active interference with the hæmatocele.

In proof of the disparity of view, I may be permitted to mention that Scanzoni states that in the course of twenty years' practice he only met with two cases of hæmatocele. Schröder, again, places the proportion at 7 in 1000 cases; Olshausen thinks it is 4 per cent. of all specially female cases; whilst Seyfert places it as high as 5 per cent. of them.[1] Hart and Barbour[2] place it at 4–5 per cent. of all specially female diseases.

I have not kept any accurate note of the cases which have fallen under my observation in the Infirmary and otherwise; but my own impression is that it is much less frequent than 4 or 5 per cent. of all cases, and that I believe 7 per cent., as stated by Schröder, is very much nearer the truth.

It is a peculiarity of experience admitting of no satisfactory explanation that in practice repeated cases of rare diseases are apt to appear near one another. I have seen a whole year pass without a single well-marked case of hæmatocele occurring in the beds embraced within my service at this Infirmary, and yet since the beginning of June of the present year three cases of the lesion have presented themselves.

I use the word intra-uterine hæmatocele in the sense of any accumulation of blood in the peritoneal cavity within the pelvis, whether it is restricted to that cavity or extends more or less into the abdomen. These accumulations of blood may take place into a cavity already formed through antecedent adhesions above the point of hæmorrhage, or they may take place freely into the pelvis from bleeding-points in or about the pelvis. In either case, it is agreed that the blood becomes by its presence an irritant to the tender peritoneal surfaces, and gets before long enveloped in a capsule of organized lymph.

I ought, perhaps, to have noticed ere now that this affection is subdivided into two heads, according to the relation of the uterus to the hæmorrhage. These are:—

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[1] Schröder, *Krankheiten der Weiplichen Geschechtsorgane*, S. 433.

[2] Hart and Barbour's *Manual of Gynæcology*, p. 166.

1. Retro-uterine hæmatocele.
2. Ante-uterine hæmatocele.

In the former case the blood effused collects behind the uterus in the back part of the pelvis, and is found usually to displace the womb forwards and upwards, so as to bring it in close relation to the symphysis pubis, whilst in the latter case the bleeding occurs into the space between the posterior aspect of the bladder and the anterior surface of the uterus. In this case the displacement of the uterus is backwards and downwards. The first and second of the cases I am going to lay before you are ordinary examples of retro-uterine hæmatocele. The third is an example of bleeding of considerable amount taking place into the pelvis when the upward advance of the blood has been limited by no pre-existent adhesions; consequently you will observe that while there has been extremely little tendency in the blood to force its way downwards so as to distend the folds of Douglas and displace the uterus forwards, it has advanced upwards freely, filling up the inlet of the pelvis in all directions, and occupying the entire abdomen up to the level of the umbilicus or nearly so. In this case the terms ante-uterine and retro-uterine are out of place, for the hæmatocele, as you will learn further on, is both behind and in front of the uterus.

Let us now, after these preliminary observations, proceed to the consideration of

CASE I.—Mrs K., æt. 39, mother of five children, was admitted into the Royal Infirmary, under Dr Wyllie's charge, on 10th June 1882. She then complained of pain in the left groin and in the lower part of the back, severe vomiting, and frequent attacks of fainting.

She states that her illness began about three weeks previous to admission, and that its onset was sudden, and accompanied with inability to make water. Her previous health had been good. Her last child was born nineteen months ago, and her periods, which last three days at a time, recurred regularly. For two months previous to her sudden illness she had not menstruated.

Before admission she had been attended first by Dr Gibson, who had to pass the catheter, and then by Dr Carmichael; but as there was no improvement, she was recommended to the Infirmary.

On the 15th of June I saw her at Dr Wyllie's request, and she was on that day removed to Ward XXVIII.

The physical condition, as ascertained at that date, was as follows:—A soft, elastic, but tolerably tense tumour projects into the fold of Douglas, behind the neck of the uterus, to within an inch and a half of the lower edge of the perinæum. This mass feels like a sac tolerably tensely filled with fluid; at any rate it is not solid. The cervix uteri is pushed high up and is difficult to reach, feeling as if it were atrophied. The pelvic tumour can be felt extending into the abdomen, but it passes further up on the left than on the right, its upper border passing obliquely in a line drawn from a point 2½ inches above the anterior superior spinous process of the left iliac bone to the junction of the outer with the middle third of Poupart's ligament on the right. The abdomen is very tender. The sound passes upwards and forwards a distance of 3½ inches.

As it was nearly impossible to say with certainty what were the contents of the tumour, although hæmatocele was suggested among others things, I aspirated it on the 20th June, with antiseptic precautions, when only a few drops of blood were obtained. Quiet in bed was maintained strictly, and an ice poultice was applied constantly over the abdomen. All went well for four days, the temperature remaining normal. The evening temperature then rose to 101°–102° for a week, the pulse at the same time becoming weak and rapid (120–140), and signs of anæmia were rapidly developed. At the same time the abdominal tumour increased in size, reaching almost to the level of the umbilicus on the left side, and the pain increased.

On the 1st of July the temperature came down to normal, and the pulse also fell in frequency, whilst it increased in force. A severe attack of diarrhœa now supervened, for which the patient was carefully dieted. The temperature remained down for about a week, when she had another attack of vomiting and diarrhœa accompanied with great abdominal pain. She was again very carefully dieted. Bismuth, hydrocyanic acid, and other drugs were used. During this attack the patient was in a condition of extreme debility, and on several occasions appeared on the point of collapse. This state of matters lasted for about a week, and thereafter her progress towards recovery was uninterrupted.

The following is the note of her condition on 2nd August, copied from the ward book:—

The tumour which distended the back wall of the vagina has now receded to a position which brings its lower part about half an inch higher than the level of the external os uteri.

The feeling of the tumour is firm and nodulated. The uterus is felt to be attached to its anterior surface, and is thereby pushed out of position in a forward direction. In consequence of the pain still felt on manipulation, it is impossible to fix with accuracy the upper limit of the tumour, but it is easy to determine that there has been great shrinkage in that direction also.

On 26th August the condition was as follows:—The uterus is somewhat anteverted, and fixed upon the anterior surface of a large, very firm, and still tender mass, which occupies the pelvis towards its posterior and left parts. The cervix uteri is now found to project free below the mass. The main bulk of the tumour is situated in the posterior and central parts of the pelvis, as a larger space is left unoccupied on the right, and a much smaller space on the left. So far as can be made out, the tumour does not project above the brim. It is firmly fixed to the pelvis posteriorly, and lightly so to the left side. It feels very hard, and is still tender.

The patient was dismissed from the hospital at this date, but she returned to report herself on the 25th of September.

In the meantime her general appearance had greatly improved; she had gained flesh, and her colour had become much better.

No abnormality could be felt in the abdomen. Behind the uterus, high up, one or two hard nodules, having quite a cartilaginous feeling, could be made out. These nodules were closely connected with the uterus, which is fixed to the back wall of the pelvis in a position midway between the normal situation and commencing retroversion. Both broad ligaments are clear, and the uterus is possessed of considerable mobility.

This case presents most of the characters of a well-marked retro-uterine hæmatocele of a severe form.. Thus we have a retro-uterine elastic tumour displacing the uterus forwards, without rise of temperature or any signs to indicate inflammation of pelvic cellular tissue or of peritonæum, accompanied by pain and rapidly developing anæmia. This tumour, at first soft, became by-and-by hard, and ultimately nearly disappeared by gradual absorption, which are very characteristic points of this affection. Some of the symptoms require special consideration, and these we will briefly refer to.

It will be observed that the onset was sudden, that it was accompanied with pain in the lower part of the back and in the left groin, as also with vomiting, repeated faintings, and inability to make water. Now these are only symptoms of sudden loss of blood, with pain from distensile pressure. It is impossible to say what was the origin of the hæmorrhage. It is curious to note that the patient had passed two periods before this attack, although her last confinement was nineteen months before, and her menstruation had become normal. We are tempted to ask whether pregnancy outside the uterus had occurred to give origin to the bleeding. But to this we are not warranted by the data to give a decided answer.

It is most common to find pelvic hæmatocele in women who have suffered from pelvic inflammation, and the resulting deposits, as well as the changes conditioned by the inflammation in the normal pelvic tissues and organs, predispose to vascular rupture. But, strange to say, in this patient's case there is evidence of no severe pelvic or abdominal disease. The history of the case, however, points to the pre-existence, pretty high up in the abdomen, of matting together of parts in such a manner as impeded the upward flow of the effused blood, and compelled it as it escaped to push downwards and to distend the fold of Douglas, and push upwards and forwards the uterus and bladder, causing retention of urine. It is curious to observe that in this and in our third case retention of urine was a marked symptom, although some authors, as Fritsch,[1] say this is not a common symptom, and others, as Hart and Barbour,[1] declare that it never occurs as a complication of this lesion. It is improbable, it appears to me, that this barrier, which, as will be seen on reference to the case, extended obliquely from above downwards from left to right across the abdomen, was formed after the effusion of blood and by the irritation it caused. If we are right in thinking that this adhesion existed previously to the bleeding, then there would be more reason to expect that the bleeding was traceable to inflammatory pelvic changes arising concurrently with the abdominal adhesion. But if we regard the barrier, which undoubtedly did exist ultimately, as being caused by the irritation of the blood-clot, then the view that the bleeding was caused by the bursting of an extra-uterine pregnancy becomes very much more probable.

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[1] "Die retro-uterine Hæmatocele," *Volkmanns Sammlung*, No. 56, S. 470.

You will observe that at the time we first examined Mrs K., and when the fold of Douglas was distended to the very utmost, the blood was still mainly, if not entirely, fluid. This would appear to point to the persistence of bleeding during the time the patient was attended outside the hospital. This view is further borne out by the subsequent great increase of the tumour during the time the patient was under observation before she began really to mend. It follows as most probable, taking into account all the facts of the case, that the blood flowed originally into a shut cavity, and thus developed the tense retro-uterine tumour of blood pushing the uterus forwards to the symphysis, which is the characteristic retro-uterine hæmatocele of Nelaton.

You will notice also that, notwithstanding some peritonitic irritation, the temperature in this case moved continuously on low levels, a circumstance of itself which speaks in favour of a tumour which is not of inflammatory origin. We were in some doubt regarding the diagnosis till we aspirated the mass, but after that, of course, all was clear. The subsequent history of its hardening and shrinking, and the extremely small dimensions to which this huge mass gradually shrunk, all in their order, prove beyond question the true nature of it.

I am, I confess, puzzled to know why there was so much vomiting. Had there been temperatures to correspond with this view, I would have been inclined to think that it was due to septic absorption. But a normal temperature seems to me to exclude that conclusion. May it not have been due to some mechanical irritation of the blood-clot exerted upon the bowels?

But there is little use speculating in a case in which it is impossible to reach within measurable distance of certainty, and accordingly we now go on to consider

CASE II.—Mrs C., æt. 36, residing at Stockbridge, Edinburgh, was admitted into Ward XXVIII. on 7th September 1882, complaining of a sanguineous discharge, which had lasted since her confinement in March 1882. At the time of her delivery she had flooded, but her general health does not appear to have seriously suffered from the loss of blood.

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[1] Hart and Barbour's *Manual of Gynæcology*, p. 168.

Before admission the patient complained of great pain in the back, in the lumbar region, passing round to the front, and simulating labour pains.

She states that she rose on the ninth day after her confinement, and caught cold, and had some shivering. Examination on admission gave the following results:—Vagina large and wide, but short, the vaginal portion of the cervix somewhat enlarged, both lips everted and gaping. Uterine body normal. Uterus attached to the anterior aspect of a rounded, softish, but not specially tender tumour, which occupies the posterior and lateral portions of the pelvis, and which can be shown by double manipulation to extend nearly, if not quite, to the brim. This mass can be moved only very slightly, and the uterus moves along with it. It is attached, though not quite rigidly, to the pelvis posteriorly and laterally. Its feel is that of an elastic tumour, and does not communicate the impression of being of inflammatory origin. There is at present a free sanguineous flow from the uterus, and the temperature is absolutely normal.

Ice poultices were applied constantly over the abdomen, and the patient kept strictly at rest.

In two days the discharge and pain had both ceased, and the patient continued to improve steadily.

On 26th September it is stated in the ward book that on examination the retro-uterine tumour has shrunken very markedly, and now feels quite hard. On the right an independent mass can be felt, which appears to be an enlarged right ovary.

The patient continued to improve, the retro-uterine mass gradually becoming smaller and smaller. Complete recovery would have resulted, had not domestic reasons compelled her to leave the house before she was quite well.

This case is by no means so serious nor so clear as our first one, although I have no doubt myself that our diagnosis was correct.

You will notice the curious combination of similar symptoms. There is pain complained of in the pelvis, the patient suffers from disturbance of menstruation (in this patient's case the form is the commonest, viz., menorrhagia), and there is a large, softish, retro-uterine tumour formed; and yet it has not exactly the feel of a mass of effused lymph or of pus—it is only slightly tender, and there is absolutely no temperature. Then the history of its disappearance is characteristic. It passes from soft to hard, the reverse of inflammatory softening, and it shrinks in size very rapidly. All these point in the direction of its being a collection of blood. It is not impossible that in this patient's case the blood reached Douglas's pouch through regurgitation from the uterus along the Fallopian tubes. At any rate, I may mention that this method of origin is generally admitted as sometimes occurring. The continued menorrhagia, associated as it is with defective muscular contractility, would tend to facilitate such an accident.

But the history of the case points to some involvement of the right ovary as a complication.

The premature departure of the patient from the hospital prevented us from thoroughly satisfying ourselves on this point. But assuming that there was enlargement of the ovary, that would of itself help us to a possible source of bleeding, as it is well known that the ovaries are frequently the source of hæmorrhage in these cases.

But we must now hurry on to the consideration of our third case, which is on the whole, I think, more interesting and instructive even than Case I., and I therefore bespeak your best attention to it.

CASE III.—Mrs S., æt. 29, residing in Edinburgh, was admitted to Ward XXXIII. on 7th October, and removed to Ward XXVIII. on 10th October 1882.

The patient complained of much abdominal pain and tenderness, cessation of menstruation, and morning sickness.

She has been twice married, the first time eleven years ago. Her first husband having died in December 1881, she married a second time three months ago. Since her marriage she only menstruated once, viz., ten weeks previous to admission. Her menstruation up to this time had been regular. She never was pregnant, but enjoyed good health during her first marriage, and menstruated regularly. The only exception to her uninterrupted good health occurred four years ago, when working in the fields as an out-door worker. She then, on lifting a heavy basketful of potatoes, was seized with a severe pain in the left side, more particularly in the left iliac region.

Though suffering great distress, she continued to work that day, but was confined to bed for the next six weeks with what was called inflammation of the bowels.

When this illness began she was *menstruating*, and she states that the flux was arrested by it for the time.

About a month previous to admission she began to have morning sickness and vomiting, with pains over the lower part of the belly. Since that period the pains have been present with varying intensity, but they have become latterly more general over the abdomen.

On the day preceding her admission, about eight o'clock in the morning, when moving about in the house, she experienced a violent pain in the left iliac region, so severe, indeed, that she fainted and was for a time insensible. On regaining consciousness she became sick and vomited, and felt ringing sounds in her ears, the pain being now general over the abdomen. On the day of admission she again fainted and was insensible for a time, and in consequence of the alarming nature of her symptoms she was removed to the Royal Infirmary. During these two days she had become very pale in colour. Her temperature on admission was 98°, and pulse 106.

On the 8th, morning temperature was 98°·5, evening 100°·2. Pulse 108. Bowels moved once.

On the 9th, temperature in the morning was 99°·8, evening 100°. She passed twenty ounces of urine, and had twenty minims of spirits of chloroform administered on account of the abdominal pain.

On 10th October I saw the patient in Ward XXXIII., at Dr Wyllie's request, and examined her, with the following results:—Considerable tenderness over abdomen, especially over the lower half. Some distention and increased resistance, more particularly inferiorly, but *no distinct resistant* tumour can be made out.

On examining per vaginam, vagina short, uterus situated low down in the pelvis, outer os very small. Vaginal portion of the cervix is short, but not softened. Anteriorly and to the left the inlet into the pelvis is blocked by an ill-defined, soft, and very partially resistent mass. Centrally it is firm and decidedly resistant; but this firm portion appears without doubt to be the anteverted body of the uterus. The uterus is not completely fixed, and is not apparently enlarged. Behind uterus nothing is to be felt.

Per rectum, an ill-defined fulness or soft mass can be felt towards the left side of the pelvis high up.

The patient was removed that afternoon to Ward XXVIII. The temperature in the evening was 100°. There was retention of urine, in consequence of which the catheter was passed and forty ounces of urine removed.

11th October.—Temperature in the morning 100°·6, evening 101°; pulse 120. Patient had again retention of urine, thirty ounces being removed. Much pain during night. Ice bags were applied to abdomen, and a third of a grain of morphia administered per rectum. The breasts are noticed to be somewhat prominent. Areolæ partially developed. Mammillæ prominent, covered with a scaly crust. Some sero-lacteal fluid can be squeezed out from both nipples. This, when subjected to microscopical examination, is seen to be composed of minute shining points and numerous colostrum corpuscles. The vulvæ present no extra pigmentation.

12th October.—There has been a slight amount of sanguineous flow last night. The mass on left side of abdomen feels more firm and somewhat defined. Measurement from umbilicus to anterior superior spine of left ilium is 7 inches, anterior superior spine of right ilium is 6¾ inches. Circumference at umbilicus 32¼ inches. The abdomen is tender on pressure over its lower part, but there is little if any tenderness above a transverse line passing through the nipple. The tenderness is greater on the left than on the right. The percussion note is resonant in the mesial line down to a point 1½ inch below the umbilicus; below that point the note is duller, but not absolutely flat. Both flanks give a resonant note. In the left groin, to a height corresponding with that noted regarding the mesial line, there is some dulness, but above that position the note is specially clear. There is similar dulness on the right side. The patient's appearance is markedly anæmic, the conjunctivæ being quite bloodless. A venous hum is heard in the veins at the root of the neck.

For the next six days the patient remained much in the same condition. The morning temperature varied from 98°·8 to 100°·4, and the evening from 100° to 101°·4. There was a good deal of pain complained of, especially at night, and the bowels remained constipated. The patient was able to pass her water voluntarily. On 16th October an enema was administered, but no movement of the bowels followed.

17*th October.*—The temperature was, morning 98°·8, evening 100°; pulse 100. The abdomen is much less distended, but the dulness on percussion is markedly more pronounced. Per vaginam, on the left side of the uterus there is now a very distinct resistent tumour to be felt, which appears to extend behind the uterus. The sound enters 2½ inches and causes no pain nor discharge of fluid. The patient had some sickness in the morning.

18*th October.*—Passed a good night on the whole. Evening temperature 100°·4; pulse 114. Had more abdominal pain in the morning, for which a suppository of gr. ¼ morphia was administered.

19*th October.*—Had another enema to-day, and a free motion after it. Temperature 100°; pulse 120. Feels better. There is now a distinct, rounded, smooth tumour to be felt along the lower part of the abdomen. Its upper margin can be distinctly felt a little below the umbilicus. It fills the lower part of the abdomen completely, but not tensely.

The patient continued to improve from that date. Her appetite got better, her temperature became normal, and her bowels acted regularly. Her general appearance underwent a corresponding improvement.

On 17*th November* the following note was taken:—A distinct hard tumour can now be felt occupying the entire abdomen from the umbilicus downwards. There is no pain complained of on gentle pressure over the abdomen. It is impossible to decide with certainty whether the tumour is attached to the abdominal wall or free from it. The tumour is fixed in the pelvic inlet, which is completely occupied by it. On the left of the uterus, and slightly so behind it, there is a feeling of a tender, elastic, cushiony, but thin mass in front of, and movable over, the surface of the hard mass. To right and left of the uterus, and also anteriorly, this feeling is not present, and the examining finger impinges at once on the hard tumour, the ordinary tissues only coming between the finger and the tumour. Posteriorly the tumour does not descend lower than the external os uteri. Fluid squeezed out of the breasts is shown by the microscope to be made up of true milk with well-developed milk-cells.

Throughout the case the treatment adopted has been the continuous application of an ice poultice over the abdomen, the maintenance of very strict rest, and an occasional morphia suppository at night when the pain necessitated it.

Nothing could well be clearer, in the case under consideration, than that there is a large accumulation of blood-clot in this patient's pelvis and abdomen. The gradual formation of the tumour, its peculiar history, from an ill-defined, non-resistent fulness, as at first seen, to a well-defined, firm, rounded tumour, as it at present exists, taken in connexion with the rapidly developed anæmia, the faintings, vomiting, etc., and the abdominal pain, as also with the great absence of pain on pressure per vaginam and the nearly normal temperature, combine to prove that the case is one of internal hæmorrhage. Its size and connexions prove that it is intra-peritoneal, for it would be simply impossible for an extra-peritoneal accumulation to extend so high. Nevertheless there are several obscure points in it, which illustrate very tellingly the difficulties which have frequently to be met and mastered at the bedside, where we find so often a marked tendency to disregard the rules of systematic diagnosis. Though, as I have already observed, the amount of blood is great, you will not have failed to notice that, so far as the pelvis is concerned, it is restricted to the back part of it down to the level of the external os uteri and to the inlet. It will also have struck you as peculiar, compared with the other cases, to find that the uterus is neither raised upwards nor pushed forward against the symphysis. In short, it is perfectly clear that the hæmatocele does not bulge downwards, as in the other two cases, so as to distend forcibly the pouch of Douglas, and thereby carry the uterus forward and upward. This peculiarity, however, admits of at least two explanations.

First, from the woman's history it is clear that she suffered at one time from pelvic inflammation. It is quite possible that, as a result of this illness, there was adhesion of the opposite surfaces of peritonæum in the pouch of Douglas, and some further adhesions fixing the uterus in a backward position. If we had had the opportunity of examining the patient immediately before or immediately on the commencement of her illness, it is quite possible we might have been able to prove that, so far as the fixation of the uterus was concerned, this was indeed the fact. In present circumstances, however, all we can say is, that it supplies us with one probable explanation of the high position of the hæmatocele.

But even though this view were incorrect, I ought to point out to you that the diagnosis is in no way invalidated. Too much stress is ordinarily placed upon the common character of an intraperitoneal pelvic hæmatocele to distend forcibly the fold of Douglas.

When blood is poured out in quantity into the abdominal cavity, it will follow the ordinary law of fluids and fill up first the most dependent parts of the abdomen, which is the fold of Douglas in the recumbent or standing position. Its level will vary with each movement of the body, and, of course, also with the amount of free blood. But its distensile force is not great, as its specific gravity is only on an average 1055. In occupying the fold of Douglas it will float the intestines, as an ascitic fluid does, provided they are not bound down by adhesions.

But if the blood can freely move upwards before coagulation takes place, it is clear it will do so rather than downwards, whenever, from any cause, the resistance upwards into the abdomen is less than the resistance to distention of the fold of Douglas. Of course, if the amount of free hæmorrhage is great there will be a greater tendency to distention of the pouch of Douglas, inasmuch as it being the lowest point of the fluid, the pressure from the superincumbent mass of blood must be greater there than anywhere else in the abdomen. But even then the amount of distention conditioned by free hæmorrhage, which is not so large in amount as to markedly distend the abdominal walls, and thus get their elastic resistance added to the weight of the blood, cannot be great.

Again, as has been ably pointed out by Schröder,[1] the amount of fluid blood in any case in the pouch of Douglas must vary greatly with the distention of the bladder and rectum. When these viscera are distended it cannot be great.

You must understand that at present we are speaking of fluid blood, which yields readily to the examining finger, and gives no more feeling of a pelvic tumour than an ascites would do when the abdomen is not tensely filled. The fluid yields readily and the pelvic viscera are readily movable in it, so that it is impossible to get the resistance we understand by the term tumour.

Now, in a case in which the blood is slow in being effused or the bleeding-point high up, situated as it is in a cavity under equable pressure, it may be very slow indeed to form a large pool of blood in the fold of Douglas. Again, suppose it is present in considerable quantity when bladder and rectum are empty, but happens to coagulate at the moment when these viscera are both full, a very slight amount indeed of blood-clot would be retained in the pouch of Douglas, and unless subsequent hæmorrhage took place the space would be in a great measure empty. Now, from these considerations, although it is quite true that the tendency of fluid blood in the pelvis, as of every other fluid free in the pelvis, is to accumulate at its lowest point, yet you will feel satisfied that the distensile force is by no means great, and that if the blood is free to move upwards while still uncoagulated, it will prefer to do so instead of forcibly distending Douglas's pouch and displacing the uterus forwards.

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[1] "Ueber die Bildung der Hæmatocele Retro-uterina und Ante-uterina," *Archiv für Gynäkologie*, Bd. v. S. 340.

The same result will follow if the coagulation takes place when bladder and rectum are both full.

It is only when, either by the blood of a hæmatocele being poured into the pouch of Douglas after the latter has been previously shut off from the general abdominal cavity by antecedent adhesions, or when, by the irritation of an existing hæmatocele, an inflammatory capsule is made for it at its upper part and subsequent bleeding takes place on a lower level, that the characteristic tense retro-uterine sanguineous tumour of Nelaton, displacing the uterus upwards and forwards, is produced. Indeed, we can have, as I think we have in the present case, a large and true hæmatocele with little or any displacement forwards of the uterus by distention of Douglas's pouch. In the present instance we have abundant evidence that the blood has accumulated in large quantity in the lower half of the abdomen, so that it must have got exit in that direction, which must have been the direction of least resistance before the time of coagulation. The history of the case further tends to show that the source of bleeding, which we believe to have been the left Fallopian tube, must have been rather high placed, for, even after the blood had coagulated, undoubted increase of hæmorrhage occurred without leading to fresh distention in the pouch of Douglas.

The high position of the hæmorrhagic point would, of course, tend to lessen the tendency to distend the fold of Douglas.

As to the origin of the bleeding, I have already stated that I believe in this case, at any rate, it resulted from the rupture of the sac of an extra-uterine fœtation. Besides the consideration that there is reason to believe that early rupture of such fœtations are a common cause of pelvic hæmatocele, other important symptoms point in that direction. Thus the menstrual flow, hitherto regular, had become arrested two weeks after her second marriage, and had remained so up to the commencement of hæmorrhage, and, indeed, ever since. The patient has milk in her breasts, a very unlikely thing for a woman who had never been pregnant and whose uterine functions were normal. Morning sickness and vomiting had also supervened a month before the symptoms of hæmorrhage. The period at which the rupture took place, two and a half months after conception, and the premonitory pains in the abdomen, are also indications of tubal pregnancy, in which rupture of the sac occurs early, and is usually preceded by pains.

The fact that the woman during a previous marriage had remained sterile does not militate against the presumption of pregnancy with a second husband, for we often find that a pair relatively sterile are neither of them sterile when mated differently.

But the pre-existence of antecedent pelvic inflammation with pelvic adhesions, such as we are warranted in assuming this patient was the victim of, is just the kind of case in which extra-uterine pregnancy is most apt to occur.

The question, What has happened to the fœtus and its membranes? is one impossible to answer at the present time. Has the peculiar cushiony, thin, tender mass in front of the blood-clot behind and to the left of the uterus anything to say to this question? I trow not. Probably the fœtus and its membranes are encysted in the middle of the blood-clot, and it is possible we may not yet have heard the last of them. Still, from the early occurrence of the rupture, and the great variety of changes that a dead fœtus is capable of undergoing, we hope it may not give rise to serious trouble in the future.

In a case of this kind, when the symptoms are urgent, one is tempted to perform laparotomy, with the view of clearing out the blood-clots and sac and securing the bleeding-points.

The history of such laparotomies are not so satisfactory as to warrant us in attempting it except the symptoms are immediately urgent and the diagnosis certain. The latter is an end excessively difficult to attain in those early cases. Indeed, we discussed the question of abdominal section in the present instance; but the symptoms never attained, in our opinion, that urgency which warranted us in operating. Had the hæmorrhagic symptoms increased to an alarming amount, I certainly would have considered myself warranted in opening the abdomen, clearing out the clots, and attempting to arrest the hæmorrhage.

To our delight, the symptoms have greatly improved in character, and the appearance of the case has become much more reassuring. I ought to have drawn attention to the fact that the smallness of the empty uterus forms the only real difficulty, in my mind, against accepting the extra-uterine theory of origin. Still it surely is not an insuperable objection, considering the divergent opinions held regarding the degree of uterine enlargement conditioned by extra-uterine pregnancy. A few words now in conclusion on the general question.

1*st*, *The Diagnosis*.—Under this head I will not go over all possible conditions, as that would only confuse you, but will restrict consideration to the most important points. If the tumour is retro-uterine hæmatocele, you will usually find that it distends the fold of Douglas, forcing the uterus upwards and forwards, whilst if ante-uterine it displaces the uterus in a backward direction. One must bear in mind that retro-uterine extra-peritoneal hæmatoceles occurs. But these usually arise in connexion with delivery, are very low placed, and, from the nature of their connexion, much more limited in the upwards direction than intra-peritoneal hæmatoceles. The difficulty of diagnosis is added to by the frequency of antecedent pelvic disease, which must be allowed for, and which, while it may give rise to the hæmatocele, at the same time complicates greatly its diagnosis. The common sources of blood are the pelvic peritoneal surfaces, the ovaries, and the tubes. But these do not give rise to bleeding when healthy. It is the chronically inflamed and congested pelvic peritoneum, the chronically diseased ovary, and the abnormally lax Fallopian tube, that give rise to bleeding. It is also in pelves the seat of antecedent inflammatory action that the conditions which favour extra-uterine pregnancy are most commonly found, and early rupture of an ovarian or of a Fallopian pregnancy is a common cause of this disease, or, rather, symptom of disease.

We must trust much to the history of each case, note its mode of onset, the rapid development of anæmia, the mode of formation of the tumour, at first not to be felt by the examining finger, then becoming possessed of a sort of indefinite resistance, and by-and-by changing into a hard mass with definite outline. There is occasionally in the early stage of coagulation a kind of feel as if one were pressing on soft snow. That feeling I once experienced, but only once, and it is not to be much relied upon. There is always more or less pain, often a very great deal of it. But the temperature is normal, or nearly so. This distinguishes the tumour greatly from all inflammatory collections within the pelvis, if the history is well taken. Then a parametric or perimetric tumour in the fold of Douglas, terminating in abscess, will be at first hard, and subsequently become soft, whilst the hæmatocele is the exact reverse.

While, under ordinary circumstances, we depend upon the forward position of the uterus as helping us, it must be remembered that this does not aid us when we have to differentiate between a hæmatocele tensely distending the fold of Douglas and a considerable accumulation of inflammatory products in the same situation.

The uterus in either case is pushed forwards and upwards so as to approximate the posterior aspect of the symphysis pubis. But much will depend upon the history, and especially on the temperature. If the symptoms admit of delay, time will rapidly settle the question between a serous parametritis occupying the fold of Douglas, from which all acuteness has disappeared, and an early hæmatocele, as the hæmatocele will rapidly become harder.

But if there is urgency to obtain a certain diagnosis, I know of no means, apart from the consideration of the history of the attack, except careful aspiration. Aspiration will also settle the question between an ovarian cyst fixed in Douglas's pouch and a hæmatocele, and between a hæmatocele and a chronic abscess. It can only be rarely that a large retroverted fundus could be mistaken for retro-uterine hæmatocele, and indeed it ought to be possible in almost all such occasions to distinguish between them. They have been known, however, to co-exist, and this is a real difficulty only to be got over by care and attention. If there is menorrhagia and the flow suddenly stops for a day or two, and a pelvic tumour follows with little or on increase of temperature, the sign suggests hæmatocele.

An extra-uterine pregnancy in the fold of Douglas must be distinguished from a hæmatocele by the absence of signs of loss of blood and by the symptoms of pregnancy. If such a pregnancy bursts, it becomes a hæmatocele, and the difficulty is to diagnose the pregnancy, the hæmorrhage being unmistakable. It must not be imagined, however, that a pelvic hæmatocele need necessarily displace the uterus forwards or distend Douglas's pouch, as our third case and other recorded cases prove the reverse.

The hæmatocele may be in front of the uterus; but this is rare, and can never take place to any great extent except when the flow occurs into a sac formed by adhesion between the uterus and the bladder, without the excess of blood overflowing the barrier formed by the broad ligaments and uterus and finding its way into the back part of the pelvis and Douglas's pouch.

In cases of ante-uterine intra-peritoneal pelvic hæmatocele the uterus is displaced backwards and a rounded tumour is formed behind the bladder and in front of the uterus. It must be distinguished from a large anteverted or anteflected fundus, from a fibroid in the anterior wall, or from inflammation of the peritonæum lining the utero-vesical pouch. In the latter case you would have history of inflammatory symptoms. The sound and careful double manipulation would keep the practitioner right in regard to displacement of uterus and fibroid. Careful examination through bladder if need be could detect a tumour in the anterior wall of the uterus. Extra-peritoneal hæmatocele anteriorly is found to form as a flat expansion between peritonæum and the abdominal wall.

These remarks, however, are only meant as hints to guide you in your examinations. Without care you will often fail; with due attention to the symptoms, individually and collectively, you will seldom go far wrong.

2nd, *The Ordinary Course of the Disease.*—It will be noticed that the course of these three cases has been, so far as yet gone, favourable, even though two of them involved large loss of blood and caused other threatening symptoms.

The history of intra-peritoneal pelvic hæmatocele is favourable, on the whole, if the bleeding is not so extensive as to be directly fatal, or if suppuration does not take place. The blood is gradually reabsorbed, till little or nothing is left.

It is on theoretic grounds believed that those hæmatoceles that arise by regurgitation from the interior of the uterus through the tubes are much more liable to spontaneously suppurate than when the bleeding is from some of the other pelvic organs directly into the peritoneal cavity. The reason alleged is, that in the latter case the blood is not pure, but mixed with mucus and possibly other putrescent matters prone to cause suppuration.

Be this as it may, it is desirable not to puncture such blood tumours if possible, and if it seems really necessary to do so, to use for the purpose a fine aspirator needle along with antiseptic precautions, and never to use a knife or a large trocar. Considerations of hæmostatics alone would exclude the use of the knife. When a hæmatocele suppurates, the patient is exposed to a concurrence of risks. The suppuration may be extensive and prolonged, and thus gradually exhaust her strength; the bleeding-point or points may not be healed, and when the abscess is opened fresh bleeding may take place into the interior of the abscess sac; the absorption of putrescent materials from a suppurating hæmatocele may lead to septicæmia; or the abscess may burst spontaneously into the abdominal cavity, and thus be immediately fatal.

3rd, The Treatment.—It will be observed that in the management of our cases we have maintained "a policy of masterly inactivity." This appears to be the safest treatment. I do not mean that we did nothing, but that we avoided all active measures.

There is always a considerable amount of pain. This, in our experience, is best allayed by the use of a thin ice poultice, which further tends to arrest, or at least does not favour, hæmorrhage, as warm poultices do. If the pain is too severe to be overcome by the ice poultices alone, we use morphia suppositories. You will find that such is usually needed in the course of the history of a case.

If retention of urine is present, as it was in two of our cases, then the catheter must be used.

The strictest rules as to rest and recumbency must be insisted on; and it is better to avoid motion of the bowels till you are satisfied that the hæmorrhage has for some time ceased.

At first, while the bleeding is going on, a cool regimen should be maintained, fluid food, taken cool, being administered. The giving of drugs by the mouth, either to arrest the hæmorrhage or promote the absorption of the effused blood, can be of no imaginable service.

In case of suppuration of the hæmatocele, then there is no help but free incision, disinfection, and drainage. The opening should, if at all possible, be made through the vaginal arch, and not through the rectum. In some cases it may be preferable to open the abscess through the abdominal wall, then to disinfect and drain it according to the method recommended and practised by Mr Lawson Tait. Our knowledge of the comparatively small amount of risk associated with the operation of abdominal section, and our acquaintance with the great amount of danger from an imperfectly evacuated, stinking intra-peritoneal abscess, combine to support us in following out this procedure. I have not yet met with a case that warranted it; but I can readily conceive conditions in which I would feel justified in adopting it.

ARTICLE II.—*Phthisis of the Larynx.*[1] By G. HUNTER MACKENZIE, M.D., Lecturer on Laryngology in the School of Medicine, Physician to the Throat and Ear Department of the Western Dispensary, Edinburgh.

GENTLEMEN,—The laryngeal complications of pulmonary phthisis are of several types, differing from each other in their period of onset and mode of development, but with certain affinities in the matter of symptoms and the increased gravity which they lend to the prognosis. For, as you will subsequently see, the larynx may be affected at an extremely early period of the disease, or—and this more frequently—it may not be implicated until the lung affection has been long established. In the former instances the laryngeal disorder may be genuinely "tubercular" from the beginning, or its initial stages may present nothing more than the characteristic appearances of simple chronic laryngitis. In the latter class of cases the affection has a true "tubercular" character throughout. In whatever way the disease originates and develops, its presence forms a most unwelcome complication of the pulmonary complaint, and renders imperative important modifications in the method of treatment. Pain, not usually met with in uncomplicated phthisis, is now present to an aggravated degree; deglutitory and respiratory embarrassments are not uncommon; increased exhaustion and death complete the outline sketch of the disease. Its presence dwarfs the concomitant pulmonary affection by the physical as well as moral effects it produces on its victims; and the blissful "spes phthisica," if present before the development of the complication, is now altogether abandoned, or is but fitfully present.

In essaying a consideration of the conditions which favour the development of laryngeal phthisis, we find the most important of these to be age, sex, and occupation. In Morell Mackenzie's cases the average age was 20 to 30 years; in the cases under my own notice it has been 25 to 35 years. The proportion of males to females I have found to be exactly 2 to 1. In cancer of the larynx the proportion of males to females has been stated to be larger, about 4 to 1. This greater proneness of the male sex to grave laryngeal disease appears to be largely due to the fact of their occupations and habits being such as favour the development of ordinary catarrhs. Exposure to the weather, confinement in close workrooms, and alternations of both, probably with the aid of the local irritation incidental to smoking and drinking, seem the principal reasons for the prevalence of the disease in the male. The strumous diathesis is undoubtedly a predisposing cause. In regard to the frequency of the complication, statistics have shown that, next to the intestines, the larynx is most frequently affected in phthisis.

Two important questions fall here to be considered—(1.) May a simple chronic laryngitis eventuate in phthisis? (2.) Does tubercular laryngitis ever precede the corresponding pulmonary disease?

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[1] A lecture delivered in the Edinburgh Medical School, session 1882-83.

In respect of the first, there appears to be small ground for doubt that, in a suitable subject and under favourable circumstances, a laryngitis primarily of a simple character may develop into the tubercular variety and be followed by pulmonary phthisis. At the same time, a chronic laryngitis may maintain its primary character for years without developing or leading to laryngeal or pulmonary phthisis. I have noticed the interesting fact, that this tendency of the simple to pass into the tubercular variety is more marked in men than women. The following is a case in point:—

W. W., æt. 37, a painter, frequently exposed to the weather, came under my care on 4th October 1880, complaining of chronic hoarseness and cough of about four months' duration. No abnormality was detected in the chest, and the larynx presented the appearances of simple chronic laryngitis. He continued under treatment for about two months, with considerable benefit both as regards the symptoms and laryngoscopic appearances. Treatment was discontinued on account of his requiring to leave for the country. On the 12th December 1881 I was again asked to see him, and found him greatly changed. He now presented all the features of phthisis, with severe attacks of laryngeal dyspnœa. Tracheotomy was performed, but the patient never rallied, and died a few hours thereafter. On post-mortem examination, vomicæ were found in the apices of both lungs, and the larynx had the naked-eye and microscopic characters of phthisis.

This case is an example of a simple laryngitis becoming tubercular and being followed by pulmonary phthisis, apparently mainly from repeated attacks of inflammation, which necessarily weakened the organ, and rendered it a suitable nidus for the reception and development of the tubercular virus. The fact must therefore be recognised that in the larynx a simple inflammation may remain unchanged for years, or, on the other hand, may sooner or later be followed by a specific one. Climatic influences, and, according to Marcet, sedentary indoor occupations, appear both to induce the original disease and to favour the subsequent transformation of the simple into the specific.

The question whether tubercular laryngitis ever precedes the corresponding pulmonary disease is of a difficult nature, inasmuch as consumption of the lungs may exist to some extent without betraying its presence by recognisable physical signs. The French, as distinguished from the German view, in regard to the induction of laryngeal phthisis is, that it owes its origin to the irritation and infection of the larynx by the sputa of phthisical lungs constantly passing over and coming into direct contact with its lining mucous membrane. But tubercular laryngitis may appear at a very early period in the history of the pulmonary complaint, when the sputum is almost, if not entirely, absent. There can also be but little question that, in a small number of cases, throat troubles develop before physical examination of the lungs reveals any abnormality in their condition. Such an one is the following:—

A young lady, æt. 22, was brought to me by a medical friend in town, on 30th October 1880, for laryngoscopic examination. She complained of hoarseness of about three months' duration, slight cough, and pain on the left side of larynx. The pulse was quickened, and temperature slightly raised. Nothing abnormal had been detected in the lungs. There was pallor, with great irritability of the fauces, laryngeal and faucial anæmia, a peculiar dull, lustreless hue of the vocal cords, and a tendency to congestion over the arytenoid cartilages. The case, in fact, had the appearances and characteristics of incipient laryngeal phthisis. The subsequent history showed the correctness of the diagnosis, for the patient died of laryngeal and pulmonary phthisis in less than a year.

In this instance the laryngeal affection had been the prominent feature from the first, and there was little doubt that, so far as could be detected by physical signs, it preceded the pulmonary disease, and certainly arose independently of it. As the larynx was the first to be attacked, so throughout the whole course of the case its condition was most urgent, and productive of the greatest amount of distress. Such cases are, however, in the minority; and here it must be admitted that no instance has yet been recorded of a patient dying of tubercular laryngitis without the lungs being also extensively affected. On the other hand, a fair percentage of the deaths in phthisis occurs without the presence of laryngeal complications. This seems to show what I believe to be the case, that the larynx more frequently infects, than is infected by, the lungs. The morbid laryngeal secretions, in addition to being inhaled by the breath, have a natural tendency to gravitate into the chest, and so act as foci of infection in the lungs. On the other hand, the pulmonary expectoration has but a momentary contact with the laryngeal mucous membrane in its passage over it, and is deprived of suitable by-paths in which to settle down and act as an infecting centre.

In studying the development of laryngeal phthisis, modifications of the symptoms and appearances must therefore be expected according as the disease is simple or tubercular from the first, and early or late in its manifestations as compared with the lungs. It is in the very early cases only that doubt may arise as to the precise nature of the malady with which you have to deal. At first there may be merely recurrent aphonia, or hoarseness, with probably a little unilateral pain or uneasiness in the region of the larynx. On physical examination, the gums are anæmic, with probably a red line adjoining the teeth, the tongue is furred in the centre and red at the tip and edges, and its veins are full and frequently ecchymosed. There is marked pallor of the fauces, and great local irritability, so that the patient is suspiciously intolerant of laryngoscopic examination. Laryngeal anæmia is present, with a peculiar, dim, lustreless condition of the vocal cords, and patches of congestion, especially towards the arytenoid region. The constitutional symptoms are important. There has been well-marked "pretubercular anæmia," the pulse is accelerated, and there is a daily thermic rise. Such a case might be mistaken for hysteria, especially in young girls, who frequently manifest their hysterical tendencies by fanciful throat troubles. In both complaints there may be anæmia, dyspepsia, cough, and marked pallor, but in the tubercular disease only is there a rise of temperature. In the differential diagnosis between the two diseases, morning and evening thermometric observations are not sufficient, for in some instances I have noted that the period of rise is very fitful, occurring occasionally during the afternoon and falling towards evening. In doubtful cases, therefore, the temperature should be registered at short intervals during the whole day. As the disease advances it becomes complicated by the development of pulmonary symptoms, and assumes the well-marked characters of what might be styled secondary laryngeal phthisis. In this variety there has been easily-recognised pre-existent lung disease, the intermittent hoarseness becomes permanent, dysphagia and odynphagia are present, varying in amount according to the degree of epiglottic implication and inter-arytenoid swelling, and there is a tendency to nasal regurgitation of fluids. Pain is sometimes present, and is frequently very intense, especially during the act of swallowing: it may not be localized in the larynx, but, by radiation along the nerves of the part, shoots into the ear and round the neck. The expectoration is copious, and contains shreds of lung tissue, and in the more advanced stages dyspnœa may be urgent. When the tubercular disease supervenes on a chronic laryngitis, the symptoms are somewhat analogous to those now detailed as indicating the secondary disease, but are not so intense.

The earliest of the individual symptoms requiring consideration is the recurrent *aphonia.* As this frequently heralds the approach of tubercular disease, loss of voice must be regarded with suspicion in those with consumptive tendencies and in the absence of hysteria or any demonstrable cause of the symptom. The aphonia must be regarded as "functional" in character, and due to impairment of the pneumogastric nerve or its branches. It seems occasionally to be partly owing to weakness of the muscles both of the larynx and thorax. At any rate, at this early stage of the disease no structural changes can be found in the larynx to account for its occurrence; there can only be detected feeble approximation and impaired tension of the vocal cords, of precisely the same nature as occur in so-called functional aphonia proper. The accompanying gastric and faucial irritability also appear to indicate perversion of the functions of the vagus, but the precise nature and cause of this change remain yet to be determined. In the later stages of the disease the aphonia merges into gradually increasing *huskiness and hoarseness,* conditions usually dependent upon laryngeal inflammation and swelling, especially of the vocal cords. "The earlier the vocal cords, and especially their insertions into the vocal processes, are affected, the earlier are the changes in the voice." The hoarseness may be partly owing to paresis of one or other of the vocal cords, which is usually peripheral in character, but may be due to pressure on the recurrent laryngeal nerves by enlarged glands, or, in the case of the right recurrent, by an indurated pulmonary apex. The hoarseness is remarkable for its persistence, and in this it differs from that associated with simple catarrhal or syphilitic disease. Otherwise, to use the words of Prosser James, "it cannot be said that there is a characteristic consumptive voice." *Dysphagia* (including odynphagia) is a most troublesome and serious symptom, on account of the restraint which it imposes upon the patient in regard to taking nourishment. Inanition is thus augmented, and the downward progress of the disease accelerated. A disagreeable feature of this dysphagia is the tendency of fluids to regurgitate through the nose. The dysphagia and odynphagia appear most marked when the disease, especially in its ulcerative form, attacks the parts chiefly acted on by the passage of food, as the epiglottis, the retrolaryngeal wall, or the fauces. There is, as a rule, little if any obstruction to the passage of food, but the inflamed or ulcerated parts, being extremely sensitive, are readily irritated by the contact of foreign matter, and the resulting increased reflex action interferes with the co-ordinate movements of deglutition. *Pain* is a more or less frequent symptom; it is aggravated during deglutition, and appears then to depend upon the same causes as odynphagia. Its radiation into the ears and around the neck is explained, as already stated, by the intercommunication of the laryngeal nerves with the other nerves of the part, such as the superior laryngeal with the auricular branch of the vagus. This radiated pain is, however, neither so intense nor persistent as in the case of malignant disease, but it is sufficiently pronounced to modify Ziemssen's dictum that it may be considered pathognomonic of cancer. In the early stages, instead of pain, there may be merely a ringing in the ears; latterly the sense of hearing may be impaired. Tenderness on pressure is sometimes present, mostly over the alæ of the thyroid cartilage, at a spot corresponding to the situation of the vocal cords, or in the thyro-hyoid fossa. *Cough* in the early stages is dry and harsh; latterly, and after ulceration and destruction of the vocal cords, it is severe and husky. A peculiarity about the cough at this later period is that, owing to inability to diminish the glottis during the act, from destruction of its boundaries or the presence of intra-arytenoid swelling, it assumes the characters of mere forcible expiration, and is therefore ineffective in clearing the air-passages of secretion. Approximation of the vocal cords being, as Traube has shown, a necessary part of the act of deglutition, and this being frequently impossible in laryngeal phthisis, liquids enter the larynx and excite cough. *Dyspnœa* is present only towards the end of the disease; it may depend upon inflammatory swelling and tumefaction, but in its most aggravated form is usually owing to partial detachment and impaction in the glottis of necrosed tissue or arytenoid cartilage, and is only relieved by its expectoration. The *fever* is non-inflammatory. In the very early stages it is some-

PHTHISIS OF THE LARYNX

Fig 1

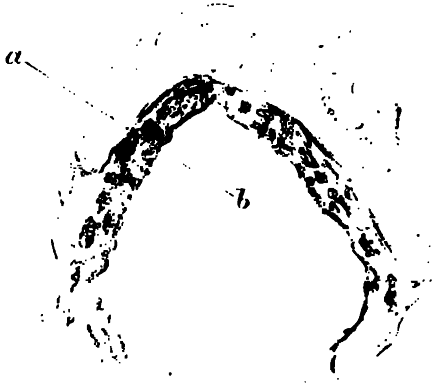


Fig 2

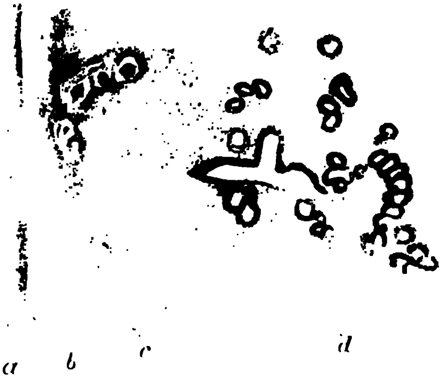
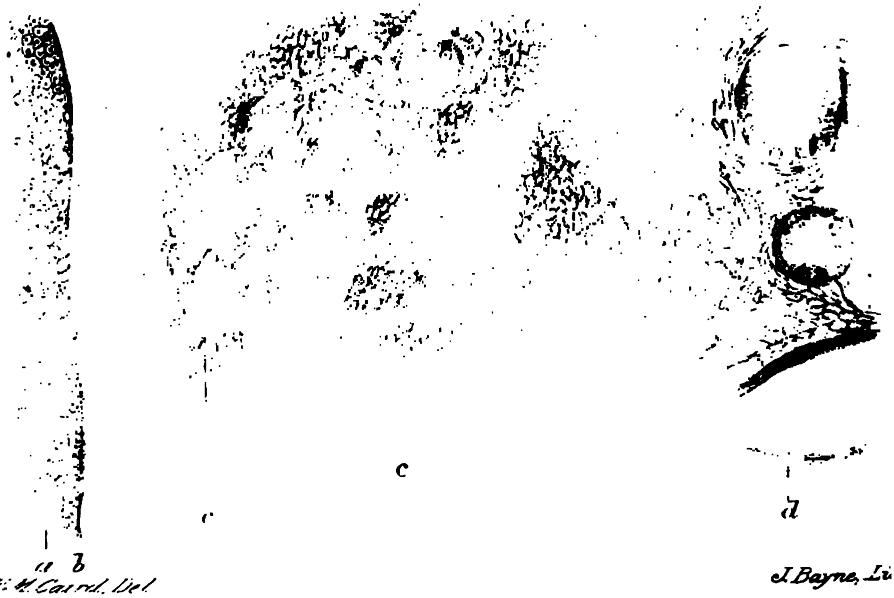


Fig 3



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what uncertain, but in the latter stages it assumes a distinctly hectic type, with minima showing collapse, and maxima the constantly recurring absorption of pyogenic matter. Lebert states that in cases of pulmonary phthisis the extension of the disease to the larynx has no influence on the already existent fever.

The complications of the disease are those usually met with in pulmonary phthisis. They are largely modified by the nature and extent of the lung affection, and their value as indications of laryngeal disease cannot be estimated with any degree of precision. As a general rule, the constitutional symptoms are more intense, and the downward progress of the disease is more rapid, in cases of laryngeal disease than where the lungs alone are affected. It is not difficult to comprehend why such should be the case.

In the course of the preceding remarks, cursory references have already been made to the physical characteristics of the disease, such as can be detected by the unaided eye and by the help of the laryngoscope. For the practical study of these, ample opportunities will be afforded you in the Throat Department of the Western Dispensary. As results of post-mortem examinations, I have found a considerable amount of ulceration of the vocal cords, especially towards their anterior commissure, the ulceration sometimes amounting to complete erosion. The laryngeal mucous membrane may be mainly in a state of tumefaction, or it also may be ulcerated. In aggravated cases the ulceration extends right through the soft structures, laying bare, or even perforating, the thyroid cartilage. The thyroid cartilage is abnormally soft. The arytenoid cartilages may be necrosed, and the crico-arytenoid joint exposed; or they may have entirely disappeared, having been expectorated during life. The epiglottis is thickened and ulcerated, there being either a single large ulcer, which generally occupies a mesial situation, or several smaller ones. Superficial ulceration of the pillars of the fauces, uvula, free edge of soft palate, and tonsils, is occasionally present, though in the great majority of cases the disease does not extend to this region. Microscopical examination of the diseased structures reveals the appearances characteristic of tubercle. There have been placed under the microscope some preparations of sections through the larynx, taken from a typical case of laryngeal phthisis which occurred in the practice of the Western Dispensary (see Plate.)[1] You will there notice general cellular infiltration and thickening of the mucous and submucous tissues, with tubercles containing large giant cells in various stages of decay. Over the situation of the tubercles the epithelium has become cloudy and granular, this being the first step in the process of ulceration. The tubercles do not usually extend into the glandular layer, though Rindfleisch has described them as sometimes commencing in the glands, and Heinze has found them in the muscles. But the principal and most frequent seat of the tubercles is undoubtedly in the mucosa and superficial layers of the submucosa; in the other tissues of the larynx their presence is much less certain. The important point for you to recognise is, that the tubercular deposit is not primarily found superficially, but in the deeper structures, a fact which tends to disprove the theory of the French school, already alluded to, that the larynx is infected by the pulmonary sputum. In such a case we should expect the initial situation of the tubercles to be superficial. As the disease advances the tubercles extend towards the surface, and ulceration ensues, with the results already described.

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[1] EXPLANATIONS OF PLATE.

FIG. 1. Section of tubercular larynx (thyroid cartilage) slightly enlarged. *a–b*, line of section.

FIG. 2. Part-section on line *a–b*, × 100 Hartnack. *a*, epithelium; *b*, basement membrane undergoing partial absorption; *c*, thickened and infiltrated mucous tissue, with tubercular deposit; *d*, glandular layer.

FIG. 3. Part-section on line *a–b*, 3×7 Hartnack. *a*, epithelium; *b*, basement membrane undergoing partial absorption; *c*, thickened and infiltrated mucous tissue, with tubercular deposit; *d*, glandular layer. In the mucous tissue, *c*, *c*, the tubercular deposit, with giant-cells in various stages of decay, is well seen.

Before proceeding to the consideration of the treatment of laryngeal phthisis, it is necessary to make the remark,—simple, no doubt, but frequently lost sight of on account of its very simplicity,—that phthisical patients may suffer from ordinary sore throat as well as the tubercular variety. Unfavourable conclusions must, therefore, not be too hastily arrived at merely because the patient suffers from hoarseness, for this may depend upon simple laryngitis. By careful repetitions of the laryngoscopic examination,—for it is seldom that a definite opinion can be expressed after one examination only,—and by an equally careful consideration of the other signs and symptoms of the disease, you will have little difficulty in arriving at a correct diagnosis.

The *treatment* of laryngeal phthisis may be considered under the headings of prophylaxis and therapeusis proper. Prophylactic measures are the avoidance of the ordinary causes of catarrh, such as dampness, the breathing of impure, heated air, and the use of local irritants,—for instance, tobacco and undiluted alcohol. A damp and cold atmosphere or soil should especially be avoided.

In cases of neglected chronic laryngitis, careful and persistent local treatment is required. In the milder instances this may consist of topical applications of chloride of zinc, 30 grains to the ounce, or perchloride of iron, 60 to 120 grains to the ounce, the applications being made twice or thrice weekly. In the more aggravated forms of chronic laryngitis the direct application to the larynx of nitrate of silver solutions is necessary, commencing with a solution of 30 grains to the ounce, and gradually increasing the strength until 240 grains to the ounce is reached. Where there is much thickening the use of the solid silver salt may be required. This variety of throat affection appears to be almost the only one in which the employment of these powerful applications is necessary. They are remarkably well borne by the larynx, and any spasm which may ensue, though startling to the patient, and even occasionally to the practitioner, is of a transitory nature. Its disappearance is hastened by causing the patient to phonate or to drink cold water. When the throat is sensitive the applications should be made before food, so as to diminish the risks of vomiting. Concurrently with this treatment the patient should inhale creasote, camphor, or oil of pine, according to the formulæ and directions of the Throat Hospital pharmacopœia. I have not found that external applications to the larynx in the form of counter-irritation are of the slightest service. When the disease is distinctly tubercular, most probably with a concomitant lung affection, a different course of medication from that now described is necessary. Fresh lesions have now developed, with corresponding modifications of symptoms, and requiring appropriate treatment. In the early stages, with slight remittent hoarseness, little if any pain, and no dysphagia, mild metallic astringents are indicated. Now, however, they are better applied in the form of spray, the best being chloride of zinc, 2 to 5 grains to the ounce. The spray, which the patient can be taught to apply for himself, should be used several times in the course of the day, and an instrument with a long flexible tube, such as I now show you, should be employed so as to play as directly as possible upon the affected parts. During the further course of the disease, when general tumefaction, probably with more or less ulceration, is present, morphia dissolved in a weak solution of carbolic acid may be used as spray. The formula which I have found most serviceable is, ℞ Morphiæ acetatis, grs. ij.; glycerini, ℥j.; sol. acidi carbolici, ad ℥vj. The strength of the carbolic acid solution may vary from ·5 to 1 per cent., according as it is borne by the patient. The spray is useful for cleansing the larynx of muco-pus and for alleviating pain. When the mucus is very tenacious, a spray of lime-water may be substituted for that of carbolic acid. Powders may be applied by insufflation, with the view of promoting healing of the ulcerations or of further mitigating pain. Morphia, in doses varying from ⅙ to ½ grain, may be so used, with or without the addition of iodoform, or iodoform may be applied alone. The use of this latter, whilst probably productive of antiseptic and anæsthetic actions, is not free from disadvantages. Its odour is very unpleasant, and it readily induces toxic symptoms. Latterly I have supplanted it by the iodide of starch, which is inodorous, and appears to have a beneficial local action without the drawbacks attendant upon the use of iodoform. It cannot, however, be too clearly borne in mind that in every instance where insufflation is practised the larynx should be previously cleared by means of the direct spray, and all coughing must have ceased. If this be neglected, the copious secretion usually present prevents the contact of the powder with the affected parts, and a quantity of it is also liable to be expelled by coughing. As shown by Morell Mackenzie, the period of maximum relief after insufflation is attained in about an hour; the application should therefore be made about that time before food. Meanwhile the patient should endeavour to restrain any tendency to cough, and should not engage in conversation. Food is best when rather cold than hot, and ice is grateful. Ice may be freely used as a means of soothing the pharyngo-larynx both before and after the applications. As in chronic laryngitis, counter-irritation externally may be resorted to, but in the great majority of instances it does not seem to be productive of much good, if, indeed, it does not add to the distress of the patient. Soothing fomentations appear productive of more benefit, but not nearly to such an extent as internal applications to the larynx. Inhalations, moist or dry, require to be used with care. Powerful dry inhalations, such as carbolic acid, creasote, or iodine, frequently do a considerable amount of harm in laryngeal phthisis. Singularly efficacious in many varieties of pulmonary disease, they have such a strong irritant action on the larynx as to be almost entirely contra-indicated in laryngeal phthisis. If the condition of the lungs be such as to indicate the employment of dry inhalations, the inhalant should be diluted by the addition of from four to eight times its volume of rectified spirits or spirits of chloroform. The best of the moist inhalations are hydrocyanic acid, conium, henbane, and lupuline. Their effect, however, is very transitory, and much inferior to sprays and powders. In the treatment of the dyspnœa, use again may be made of powdered morphia, which, according to Woakes, acts as a vessel-constrictor when applied locally. When œdematous swelling is present, scarification may be performed. Tracheotomy is not usually recommended, as at the stage of the disease when it is most required the patient's recovery is usually hopeless, even after the successful performance of the operation. Perfect quiet should be insisted on throughout, so as to reduce to a minimum the friction of the vocal cords by the passing current of air during phonation.

Nutrition and nursing require very special care and attention. The aggravation of pain during deglutition, and the disagreeable sensation attendant upon nasal regurgitation of fluids, cause an involuntary abstemiousness on the part of the patient, who prefers to suffer the pangs of hunger than undergo the ordeal of swallowing. To minimize these discomforts, food should be administered about an hour after the application of morphia, and should not be sipped, but gulped in mouthfuls. Thickened liquids are more easily swallowed than thin watery ones. Spices and condiments should be avoided, as also alcohol in the form of brandy or whisky, unless freely diluted, and even then its local irritant action is frequently very marked. M. Debove states that the system of forced feeding, or super-alimentation, which, by overcoming the feeling of nausea incidental to the presence of food in the mouth and pharynx, has been found of such signal service in advanced cases of pulmonary phthisis, is not suitable in acute laryngeal tuberculosis.

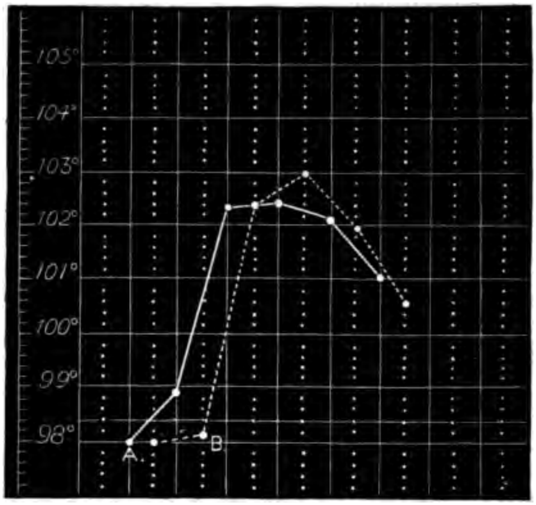
The treatment hitherto considered has been mainly palliative and symptomatic, and directed entirely to the amelioration of the local expressions of the disease. In considering the so-called "constitutional" treatment, the possibility of syphilis being present even in apparently pure laryngeal phthisis must always be thought of. Ruehle says, "Syphilitic ulceration is sometimes met with in consumption. A colleague in Wesel informed me that he had cured or relieved, by anti-syphilitic treatment, quite a number of cases of supposed consumption in syphilitic families. . . . The larynx is the locality, par excellence, in which syphilis and phthisis intermingle and intersect each other." A case of this nature is now under my care.

J. B., male, æt. 26, consulted me on 4th January 1882. He complained of shortness of breath, cough, occasional bloody sputum, and sore throat. At the right apex, anteriorly, the percussion note was high and dull, with prolonged expiration and increased vocal resonance. Over the right lung, posteriorly, distant sibilant sounds were audible. On proceeding to examine the throat, small mucous patches were detected on the tip and sides of the tongue, and the tonsils were symmetrically swollen. The vocal cords were congested. The patient subsequently confessed to having had syphilis about two and a half years previously. Under appropriate antisyphilitic treatment the lesion in the mouth and larynx entirely disappeared, and the condition of the lung also slightly improved.

The "constitution" may also be attacked by cod-liver oil or the hypophosphites, according to the particular fancy of the practitioner. Constitutional without careful local treatment is, however, singularly inefficacious in staying the progress of the malady, and the relief it affords to the patient is absolutely *nil.*

One of the most important indications for treatment is afforded by the fever attendant upon the disease. Aside from the various local lesions and their symptoms, there is no condition which more requires active treatment than that complex state which exists under the term fever. In the disease now under notice this appears to be owing to a variety of blood-poisoning, either of a specific or of a simple suppurative nature. When the lungs only are affected, the fever may be considerably modified by the continuous inhalation of volatile antiseptics, which tend to prevent decomposition of the pulmonary secretions, and also modify their amount. As already stated, however, the presence of laryngeal complications forms a serious objection to the employment of this method of therapeusis, unless with the modifications previously enumerated. Attempts may also be made to modify the fever by the use of such reputed antipyretics as quinine and digitalis. These may be administered singly, or in combination as Niemeyer's pill. In reference to the results obtained from the use of these drugs, I am not certain that they have any marked antipyretic action in this disease. In small doses they are certainly inert, and in large doses they frequently upset the stomach, and so aggravate the already existent gastric irritability, without any compensatory benefits. This chart indicates the temperature in a typical case of acute tubercular laryngitis before and after a course of treatment by quinine had been undergone.

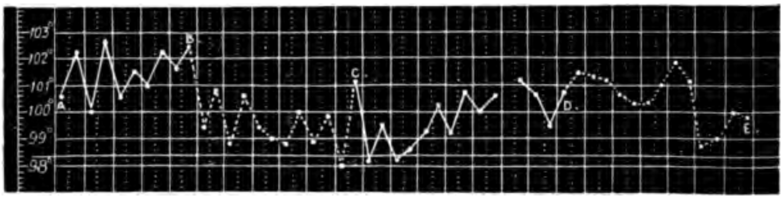
CHART I.



The continuous line (A) indicates the temperature without quinine at the following hours: 9 and 11 A.M., 3, 5, 7, and 9 P.M. The interrupted line (B) shows the temperature at the same hours after quinine sulphate had been given in single ten-grain doses for eight consecutive days.

In this case the administration of quinine had no effect upon the pyrexia as determined by the thermometer. The beneficial actions attributed to the combination of quinine and digitalis in the form of Niemeyer's pill appear to be partly due to the opium which it contains. It appears to have a slight and evanescent effect upon the fever. The next chart indicates the morning and evening temperature in a case of acute laryngeal phthisis with and without Niemeyer's pill and antiseptic inhalations.

CHART II.



The continuous lines A to B and C to D indicate the temperature without quinine and digitalis. The interrupted lines B to C and D to E indicate the temperature whilst the patient was taking three of Niemeyer's pills daily. From B to E continuous inhalation of weak carbolic and creosote solutions was maintained.

The results here shown are—(1) a fall of temperature at B when the administration of digitalis and quinine was commenced; (2) a tendency for the temperature to rise on their cessation at C; and (3) no marked effect on the resumption of the use of the drugs at D, unless the absence of the morning remissions be considered a result. The practice of continuous antiseptic inhalations, even though in weakened solutions, doubtless assisted in modifying the thermic curve from B to E. I have already noted this result in cases of acute pulmonary phthisis after a course of inhalation treatment.

With regard to the employment of ice for antipyretic purposes, as a rule, it cannot be borne for any length of time, on account of the general discomfort and aggravation of coughing which it induces. Even when persevered with for long periods, it appears to have no permanent action as a reducer of temperature.

The complications of the disease requiring active treatment are identical with those met with in pulmonary phthisis. The administration of linseed tea has a soothing effect upon the throat, and at the same time acts beneficially upon the intestinal lesions with which diarrhœa is associated.

The climatic treatment requires a short notice. As already stated, cold and damp should be carefully avoided. Whenever the larynx is threatened or has been actually invaded, high altitudes should be shunned, more particularly if pyrexia, catarrh, destruction of lung substance, or irritability of the vascular system be prominent features of the case. Such patients do best on or near the sea, as in the Riviera.

Although in the treatment of laryngeal phthisis, more especially in its later stages, we are attempting to cope with a disease of a most intractable nature, where a cure or marked improvement is of rare occurrence even after the most careful medication, still there are few diseases in which, by judicious management, greater relief of symptoms can be afforded than in that now under notice. If we cannot cure, we yet may relieve; for are not the *raisons d'être* of our profession the prolongation of life and the mitigation of suffering?

ARTICLE III.—*On the Therapeutic Value of Sulphurous Acid and Steel in Scarlatina Maligna.* By KEITH NORMAN MACDONALD, M.D., F.R.C.P. Edin., L.R.C.P. Lond.

THE prevalence of scarlet fever of a more or less malignant type in different parts of the country during the last few months induces me to draw attention to the therapeutic value of sulphurous acid and steel in the treatment of that disease, and to comment upon the danger of trusting to the *vis medicatrix naturæ* in such cases, or of relying upon an expectant plan of treatment or any half-measures of doubtful efficacy.

That scarlatina maligna is one of the most formidable diseases with which the medical practitioner comes in contact is an undoubted fact, and nothing but the greatest watchfulness and the most vigorous measures are at all capable of battling with its terrible ravages. Every hour lost in the way of treatment adds tenfold to its danger, and, as unfortunately too often happens in the case of children, all hope of recovery may be abandoned when persistent vomiting continues from the commencement, and the power of swallowing is gone.

Whatever pathological differences may exist between malignant scarlet fever and diphtheria, there can be no doubt of a similarity of action common to both, viz., blood-poisoning in one of its most acute and rapidly fatal forms. It was this apparent similarity of action that induced me first to try the effects of sulphurous acid and steel, as they had previously been found more or less successful in the treatment of diphtheria.

Dr H. Senator[1] of Berlin, as an exponent of the German view of the pathology of diphtheria, remarks that "in scarlet fever nothing is more frequent than diphtheritis of the throat, and nothing more rare than croup of the air-passages. And yet there can be no greater resemblance between the two local affections than that between the affections of the throat in scarlet fever and in synanche (cynanche). The resemblance, indeed, is so complete, that many observers, regarding the anatomical appearances as the essential part of the disease, consider the diphtheritic form of cynanche to be only a scarlet fever without the exanthem, but in other respects look upon both diseases as identical, which, by the way, they are as little justified in doing as they would be in considering every case of acute nephritis as scarlatina *sine* exanthemata, only because the kidney affection is a regular or frequent attendant upon scarlet fever. The micrococci, likewise, are in the throat affections of scarlatina just as numerous, and just the same in character, as these in cynanche. But if, notwithstanding this, the air-passages in the latter disease are in a manner so very frequently attacked, and in the former so very rarely, we must certainly admit that these organisms, to be met with in the throat, can neither in the one disease nor in the other be the primary and essential cause. The fact that both diseases dispose to similar disorders of the throat, but only the one to a disorder of the air-passages, must be due to the difference in their natures, to a cause at present unknown to us. With regard to disorder of the air-passages, cynanche comes nearer to measles, which, in contrast to scarlet fever, disposes far more rarely to the throat affections, particularly the diphtheritic ones, but regularly leads to diseases of the air-passages, croupous inflammation being the most frequent form which these assume."

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[1] *German Clinical Lectures*, New Sydenham Society's edition, vol. lxxi. p. 435.

Tanner,[1] on the other hand, while holding somewhat similar views, remarks that "diphtheria and scarlatina sometimes occur as epidemics in the same district, while occasionally they co-exist in one individual. Hence some have thought that diphtheria was only scarlatina without any eruption; and they have pointed to the facts that in modified scarlet fever there is now and then an exudation slightly resembling the diphtheritic membrane, while albuminuria sometimes is present in both diseases. Further investigation shows, however, that these affections are distinct from each other, although there may be some analogy between them."

This is enough to indicate, so far as treatment is concerned, that in the present state of our knowledge almost the same treatment may be applied to both diseases; or, in other words, what may be found successful in the one will probably be found equally successful in the other. The late Dr James Dewar[2] of Kirkcaldy, in a pamphlet published some years ago, drew the attention of the profession to the therapeutic value of sulphurous acid in diphtheria and scarlet fever, and since then, I believe, its efficacy has been firmly established, though not to the exclusion of other remedies. As sulphurous acid is capable of rapidly destroying all animal and vegetable organisms, and being easy of administration, it must continue to rank as one of our most valuable therapeutic agents.

That scarlatina and diphtheria often co-exist in the same individual I have not the slightest doubt, as I have had abundant opportunities of observing the combined symptoms of both diseases in several instances during the course of the epidemic of scarlet fever which has been rife in this town (Cupar-Fife) for the last four months.

In one case, that of a little boy aged 8, whom I first saw on the 27th of July 1882, and who was then *in articulo mortis*, there was a well-marked scarlatinal rash nearly all over the body; in fact, to all appearance it was a case of the severest form of the anginose variety; but in addition to this there were dirty-white patches at the back of the fauces, with crowing respiration, and sibilant râles were distinctly audible all over the chest, showing that the false membrane had already formed and extended into the trachea and bronchial tubes, which of course precluded all operative interference, which in the majority of cases is but a doubtful expedient. He died the same night. Another member of the same family, a little boy aged 6, also died suddenly, either from a portion of false membrane entering the windpipe, or from deposition of fibrine in the heart, or embolism. This child I saw on the same day as the preceding, and he was then sitting up and playing with the other children; and the rash was well out all over his body, and only faint white specks could be seen at the back of the throat. I at once ordered him to be sent to bed and kept there; but he died rather suddenly at seven o'clock the following morning, his medicine having been neglected nearly the whole time.

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[1] *Practice of Medicine*, vol. i., 6th edition, p. 538.

[2] Simpkin, Marshall, & Co., London, 1882.

In both of these cases there must have been blood-poisoning, as I afterwards found that there had been an escape of gas in the room adjoining for some months previous to the illness which terminated so fatally.

Another peculiarity about these zymotic diseases is the rapidity with which they prove fatal to some members of a family, having an apparent predilection for some constitutions, where doubtless they find a suitable nidus.

A striking illustration of this fact will be found in the following cases:—

On the 6th of October 1882, I was called to see a little boy aged 6 years, the son of a respectable tradesman, and one of a family of nine, who was suffering from scarlatina anginosa, but who made a fair recovery, though his case was complicated with a somewhat severe scald of the lower third of the right side of the neck, extending to the level of the fourth rib of the corresponding side antero-laterally. The other children slept in a bedroom off the kitchen, the beds being placed in recesses in the wall, a common arrangement in this part of the country, where a disagreeable smell was frequently noticed by the parents, who imagined that by opening the window every morning they had done everything necessary in the way of ventilation.

The house, moreover, was a very old one, projecting backwards off the street between two narrow alleys; and the only water-closet which the house contained was placed at the bottom of the stairs, in a dark corner near the front door, which was 6 yards within the entrance of the close. All the windows were small, the ceilings low, and the whole house, in fact, was in a very unsanitary state.

On the 9th of October, three days after the first appearance of the disease, six of the other children were laid up, and were removed to the front room, which was the largest and best in the house. One of them, a healthy little girl aged 10 years, took ill with vomiting on the morning of that day. She laid down at eleven o'clock, never raised her head again, and died at ten o'clock on the following morning. In this case remedial measures were of no use, because they could not be applied; the vomiting was so persistent—and this is always a fatal sign—that it was worse than useless trying to get anything into the stomach. She was also much purged, clearly indicating that the whole force of the disease was exerting its influence upon the mucous membrane of the gastro-intestinal tract. All the eruption that appeared upon the body consisted of a few dusky patches about the trunk and extremities. The exact state of the throat could not be ascertained, as she firmly clenched her teeth the moment any attempt was made to open the mouth, and struggled so violently that our endeavours were utterly useless and hopeless.

Another little girl of the same family, 4½ years of age, who was seized the same morning, also died on the second day of the fever; but neither of these cases had the full benefit of the sulphurous acid, as the parents did not carry out all my instructions to the letter, which I shall afterwards point out to be absolutely essential to insure anything like success.

A third member, a boy aged 8, very nearly died of the same disease, and I have not the slightest doubt he would have done so were it not for the assistance rendered by an intelligent neighbour, who frequently used the sulphurous acid fumes in the sick-room, and also saw that the acid was administered internally, and had his mouth and throat laved with a solution of permanganate of potash several times in the day. His convalescence, however, was protracted by the following complications—otorrhœa, epistaxis, ulceration about the mouth, albuminuria, and anasarca,—but eventually he made a good recovery. The other three children, who had been living under exactly the same circumstances and in the same room with those who died, both before and during their illness, were affected by scarlatina simplex only, while the two youngest members of the family escaped altogether, though they had been frequently in the sick-chamber.

This points to the conclusion, or rather leads us to infer, that the same poison acts differently upon different individuals, that, in fact, in one person it produces blood dyscrasia, while in another it terminates in an efflorescence which creates little constitutional disturbance.

Now, as to the treatment. I have come to the conclusion, after a great deal of reflection, that to be successful in most cases of scarlatina maligna it must not only be promptly and vigorously, but also intelligently applied, and that when so carried out the worst cases need not be despaired of. In order, however, to attain this end, it is necessary for the medical practitioner to enter minutely into details in giving his instructions, and to see that they are carried out to the letter as far as practicable, and never to be contented with the reply, "Oh, he or she won't take the medicine."

My plan of treatment is as follows:—The moment the throat begins to become affected, I administer to a child of five or six years of age 10 minims of the sulphurous acid with a small quantity of glycerine in water every two hours, and I direct the sulphurous acid spray (strength, ʒij.–ʒiv. to the ounce of water, according to circumstances) to be applied every three hours to the fauces,—about twenty squeezes; and when that can't be done, to hold the instrument about 6 inches from the mouth, and use it for a few minutes at a time. The acid solution must be recently prepared, as when it is kept for some time in water it takes up an atom of oxygen and becomes sulphuric acid. It is of some importance to bear this in mind, as the efficiency of the acid treatment depends entirely upon its composition.

At the same time I administer a mixture containing from 3 to 5 grains of chlorate of potash with 7 to 10 minims of the tinct. ferri perchlor. in glycerine and water, more or less according to age, every four hours. I further direct a strong solution of permanganate of potash (ʒij. or more to 6 ounces of water) to be held in readiness for laving the lips and mouth several times in the day to arrest the formation of the dark sordes which collect about these parts, some of which should be swallowed, if possible, each time the lotion is applied, gargling being out of the question in young children.

Sulphur should also be burned in the sick-chamber three times a day at least, by placing flour of sulphur upon red-hot cinders on a shovel, and walking about the room with it, thus diffusing the sulphurous acid vapour through the apartment, until the atmosphere becomes a little unpleasant to breathe.

In cases of an adynamic type, when medicine can't be swallowed, the spray and sulphurous acid vapour must be entirely relied upon. It is only in the very worst cases that I employ all the above remedies; for, as a rule, the sulphurous acid alone is quite sufficient to combat most cases of scarlatina anginosa; but when there are white patches at the back of the throat, I invariably administer steel and chlorate of potash as well, and both patients and their friends have frequently remarked to me, under such circumstances, that an improvement took place after the first dose of the medicine had been swallowed.

Of course, while vaunting the above remedies so highly, I do not forget that other details have to be attended to, such as the importance of fresh air and its free circulation, when that can be attained, the constant presence of disinfectants in the room, such as carbolic acid, chloride of lime, Condy's fluid, etc., the proper disposal of all discharges, the burning of rags containing sputum, etc.; but among the poorer classes of society, where, as a rule, the worst cases are to be met with, details are seldom carried out, and one can only just do the best he can under the circumstances.

As regards diet, milk, beef-tea, and wine should be frequently administered *when possible*, and sucking ice, which, as a rule, can be well borne. In the majority of these cases, however, little nourishment can be taken until all imminent danger is over.

Different authors have employed a great variety of remedies in scarlatina maligna, some of which I shall now contrast with the measures I have sketched out, for the purpose of drawing attention to their uselessness or therapeutic value, as the case may be.

In Reynolds's[1] *System of Medicine* I find it stated that "of all the remedies employed in the treatment of the malignant form of scarlet fever, there is one which stands out from among the rest, the cold affusion. Yet it is not of equal value in all cases: from the days of Currie downwards, the ataxic form of the disease, characterized by delirium, diarrhœa, vomiting, full pulse, and great heat of skin, has been recognised as the special indication for this active treatment. The patient is to be seated naked in a bath, two or three bucketfuls of water at 70° F. are poured over him quickly, so that the affusion does not last longer than half a minute; he is then returned undried into bed, and laid between blankets.

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[1] *A System of Medicine*, edited by J. Russell Reynolds, M.D., London, 1866.

"When this treatment has been objected to, or has seemed too bold, I have seen very good results follow from packing the patient in a wet sheet for an hour. Ammonia and brandy are nearly always needed by these patients." It is also further stated, that in the primary adynamic form all treatment will be baffled, but recommends hot mustard baths, beef-tea, brandy, ether, camphor, etc., and, as local applications, undiluted hydrochloric acid to the tonsils, and solid nitrate of silver for any other part of the soft palate. Now, as to the therapeutic value of cold affusion, I look upon it as being a rather dangerous remedy; for, in the first place, it must have a very depressing effect when applied to a subject not possessed of a strong capillary circulation, and a remedy so universally recommended is sure to be used in some unsuitable cases, and, moreover, such a remedy is also sure to be regarded with dread and suspicion in private practice, and especially so when fatal results follow its use. In the second place, it does not appear to me that the mere abstraction of heat from the body for the time being, and only immediately after the application of the cold affusion, could be of much service unless the poison circulating in the system were also abstracted, which is extremely improbable; and I have no doubt but that in the majority of cases where benefit was supposed to have been derived, they would have got on equally well without it. For my own part, I must say that I have never met with a "full pulse" in a case of malignant scarlet fever, and I believe that such an occurrence must be extremely rare; hence my reason for not recommending the application of the cold douche in cases of malignant scarlet fever.

Drs Meigs and Pepper[1] recommend, in cases attended with low delirium, stupor, or coma, or with convulsive phenomena, and when the eruption is scanty and imperfect, or copious and of a dark purple tint, the warm bath at 95° or 96° F., continued for twenty minutes or half an hour, and repeated as occasion may require. In this treatment I entirely concur, when accompanied by the internal employment of stimulants, as ammonia or brandy, and cold to the head, as far as it goes, but it lacks vigour. As local applications, the best of all remedies, in their opinion, are weak solutions of nitrate of silver (5 to 20 grains to the ounce of water), tincture

[1] *Practical Treatise on the Diseases of Children*, Philadelphia, 1870.

of the chloride of iron diluted with from 5 to 7 parts of water and solutions of the sulphate of iron. They have not seen such brilliant results follow the use of the cold affusion as some authors assert, though they admit that such undoubted authorities as MM. Rilliet and Barthez speak in the highest terms of it.

Dr Charles West[1] recommends stimulants and nutritious diet, the same as we are accustomed to give in typhus fever. He is also in favour of cold to the head, and cold affusion. If stimulants and nutritious diet could be taken in the worst cases, no doubt this treatment would be judicious; but they can't. Whatever may be lost by his constitutional treatment may be gained by the local treatment. In this he appears more practical, when he says that when a child is too young to gargle, a solution of permanganate of potash or sulphurous acid—1 part to 8 of water—should be frequently employed with the spray-producer; and when there is much deposit of lymph upon the tonsils, strong hydrochloric acid mixed with honey should be applied by means of a camel's-hair pencil (strength, 1 part to 6), or a solution of nitrate of silver of 20 grains to an ounce of distilled water.

Dr F. T. Roberts[2] remarks that when the throat symptoms are severe the best treatment consists in sucking ice or inhaling steam, using gargles of lukewarm water or antiseptic remedies, such as carbolic acid, creosote, chlorate of potash, Condy's fluid, or sulphurous acid, chloride of lime, chlorine water, dilute hydrochloric acid, or peroxide of hydrogen; and when they can't be used in this form, to be employed in the form of spray. Nourishing food, in the form of soups, meat-extracts, milk, and stimulants, especially port wine or brandy, and tincture of steel alone or combined with quinine, should be administered; and, in extremely malignant cases, a hot mustard bath or cold-water affusion, a blister to the nape of the neck, and stimulating enemata in addition are recommended.

Dr William Aitken[3] speaks highly of the use of carbonate of ammonia, on account of the tendency to the deposition of fibrine in the right cavities of the heart. In mild cases emetics are recommended, followed by calomel and castor oil; and the following principal indications are to be kept in view:—When there is much excitement of the system, depleting cathartics are to be given; if nausea and vomiting prevail, a seidlitz powder is of service, etc. This is surely rather antiquated.

Gargles, he remarks, are unnecessary for children, as they cannot gargle; but when they can be employed, a solution of peroxide of hydrogen is the best, prepared as follows:—Solution of peroxide of hydrogen (containing 10 volumes of oxygen) 6 ounces, tincture of myrrh an ounce, rose-water 6 ounces (Richardson). This gargle may be used at pleasure, being refreshing and grateful to the patient, and readily removes all offensive secretions.

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[1] *Diseases of Infancy and Childhood*, London, 1874.

[2] *Handbook of the Theory and Practice of Medicine*, London, 1876.

[3] *Science and Practice of Medicine*, London, 1868.

Dr Domett Stone[1] has collected together the opinions of some of the leading European and American writers on therapeutics, and I am glad to be able to avail myself of his labours, not having ready access to large libraries.

Sir William Jenner's[2] experience leads him to the opinion that we have no remedy for the general disease, that we can only act upon general principles, calming the patient when excited, stimulating him to keep his heart beating when he is weak, and cooling the surface of the body when the temperature is excessively high. He recommends a cool room, fresh air, unstimulating diet, a mild aperient, and the ordinary chlorate of potash drink, also frequent changing of the blankets, sheets, and body linen, etc. This is rather disappointing, coming from such an undoubted authority.

Dr George Johnson[3] follows a somewhat similar course of treatment to the above, including a warm bath once or twice a day, or daily packing for an hour or more in a warm wet sheet, covered by blankets, but his remarks evidently apply more to the milder forms of the disease.

Dr Renfrew[4] speaks highly of a mixture of chlorate of potash and steel, which contains chlorine, muriatic acid, iron, and chlorate of potash, for invigorating the blood.

Dr A. Rowand[5] administers balsam of copaiba in four or five drop doses, mixed in ʒij. syrup or ʒij. mucilage of gum arabic, three or four times a day, with most satisfactory results.

Dr Edward Copeman[6] advises, for the relief of those severe cases in which there is a profuse ichorous discharge from the throat and nostrils, with disposition to sloughing ulcers in the pharynx, the free application of a solution of nitrate of silver (from four to eight grains to an ounce) by means of a brush or syringe, and small doses of hydrochloric acid in camphor mixture or decoction of bark.

Dr Russell Aldridge[7] strongly recommends the use of the liquor of pernitrate of iron in syrup or glycerine, in doses of ten minims every three hours for children of from one to six years, increasing, according to age, to fifteen, twenty-five, or thirty minims. This, with the exception of warm fomentations to the neck in cases of scarlatina anginosa, is all the treatment he has adopted.

Dr Charles F. Routh[8] prefers, as a local application, carbolic acid, chlorine, or tannin, to caustics, and as regards the nature of the materies morbi, whether a ferment or an oxyacid, asserts that it is completely destroyed by antiseptics and by agents which check fermentation, such as sulphuric acid, chlorine, and carbolic acid. Ammonia and acetic acid are also highly spoken of, but he is in the habit of giving citrate of ammonia in an effervescing state, with carbolic acid internally.

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[1] *An Epitome of Therapeutics*, London, 1874.

[2] *British Medical Journal*, Nov. 19th, 1869.

[3] *Lancet*, Jan. 8th, 1870.

[4] *Lancet*, Aug. 20th, 1869.

[5] *Medical Times and Gazette*, Feb. 17th, 1871.

[6] *St George's Hospital Reports*, vol. v., 1870.

[7] *British Medical Journal*, Aug. 12th, 1871.

[8] *British Medical Journal*, Jan. 22nd, 1870.

Mr G. J. S. Camden,[1] on the other hand, administers with the greatest success carbonate of ammonia on the very onslaught of the disease, in distilled or cold boiled rain-water filtered, and never gives emetics or aperients, or anything to lower the vital powers.

Erasmus Wilson[2] confesses to a strong leaning in favour of the ammonia treatment, in doses of two or three grains for a child under seven years of age, every two, three, or four hours, nourishment, stimulants, and the chlorate of potash drink, and, as a local application, nitrate of silver, inhaling the vapour of vinegar or ammonia, and syringing the mouth, fauces, and nostrils with a solution of chlorate of potash, bark and port wine being at the same time administered internally.

Dr Niemeyer[3] states that in cases of scarlatina maligna, where there is no dangerous local disease, heat should be abstracted from the body by placing the patient in an empty tub and pouring cold water over him, or wrapping the naked body in wet sheets, and that this plan should be adopted every time the temperature becomes excessive or symptoms of adynamia reappear. In desperate cases he gives carbonate of ammonia, camphor, musk, ice, quinine, nourishing soups, milk, etc., and as soon as the sloughs become detached from the throat, nitrate of silver solution (ʒj. to ℥ij. water) should be applied by means of a probang. When croup complicates angina maligna, he advises the administration of an emetic and the application of a solution of nitrate of silver to the glottis. The emetic treatment here I would consider of doubtful efficacy, as being too depressing under the circumstances, where at best death stares one in the face.

Now, with regard to the ammonia treatment, so highly recommended by most authorities, I have a decided objection to it, because I find in actual practice that its administration is almost impracticable. It is nasty and disagreeable to children; and as the great majority of cases occur amongst young children, it must always be a matter of extreme difficulty to induce them to swallow more than one dose of it.

The same objection almost applies to steel, which is also very disagreeable to children; but when applied locally, even one application of it often appears to do a great deal of good. On this latter point, viz., the application of local remedies, Senator[4] truly observes: "Just see how, besides yourself, it takes the father and mother, and others perhaps as well, to hold the refractory child (and even the best child becomes refractory the third or fourth time such a procedure is repeated); see how it clinches its teeth with all its might, struggles and kicks as hard as it can to get loose, cries and screams until it has literally screamed itself hoarse—just experience this once, and you will not be able to resist the conviction that such a method as this is decidedly mischievous."

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[1] *Medical Times and Gazette*, Feb. 1st, 1873.

[2] *Diseases of the Skin*, 6th edition, London, 1867.

[3] *Text-Book of Practical Medicine*, London, 1873. [4] *Op. cit.*, p. 447.

Inunction with oil or lard is another remedy, used generally in mild cases, to which I have a decided objection, because it must more or less interfere with transpiration and the escape of the scarlatinal poison from the cutaneous surface of the body, and is not only useless, but might prove highly injurious. Any good it might effect can be equally well obtained by sponging the surface with vinegar and warm water. The application, however, of a little carbolized oil, when desquamation sets in, might be attended with undoubted advantage in preventing the spread of the disease.

In Quain's *Dictionary of Medicine,*"[1] just published, I find that under the head of *scarlatina gravior* all the more serious cases are included, some called *scarlatina anginosa* when marked from the first by severity of the throat symptoms, others *scarlatina maligna* when high fever is the prevailing symptom.

In the adynamic type, diphtheria of the mucous membranes or the skin makes its appearance in some cases, not as a new infection, but as one result of the disease. "So, among several children with scarlet fever, one may only have a faint rash, slow to appear, soon fading, or perhaps again returning, called *scarlatina anginosa maligna,* but the appearance in the throat and other signs are those of diphtheria; or one child with such a throat and no noticeable rash has started scarlatina among others." This to a great extent corroborates my views, previously stated.

Under the head of treatment, after detailing the usual precautions, the "hot pack" is considered injurious, most so when the rash is imperfect; and when there is excessive body heat, cold affusion, or the *cautious* use of the wet pack, "would moderate fever," "but these means must be so used as to soothe and not to tire the patient."

Internally, when the throat is very bad, lumps of ice or iced water should be given to children, and older persons find relief from inhaling steam. Warm compresses and poultices should be applied round the neck; the latter, when held up close to the ear, relieves pain in the tonsil.

Chlorate of potash in mixture or as a spray, and chlorinated soda, are highly spoken of, as also acid chlorine made by dropping strong hydrochloric acid on chlorate of potash in a bottle (♏iij. of the acid, and gr. j. of the salt to each ounce of capacity), and then adding water to dissolve the liberated chlorine.

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[1] Longmans & Co., London, 1882.

In all the graver forms of scarlet fever, when the temperature is high, quinine and digitalis are considered the most efficient and the most suitable remedies. The sulpho-carbolate of soda has also been found useful, and perchloride of iron in renal complications. The hot-air bath and pilocarpine are also favourably mentioned for producing a free action of the skin, the latter used hypodermically. "Two drops of a 5 per cent. solution of the muriate answers well: the sixth of a grain will produce perspiration in an adult. Children require full doses of pilocarpine, up to one-tenth of a grain twice a day, in azoturia."

Alcoholic stimulants are recommended to be used with great caution, and ammonia, bark, brandy, and even opium may be needed when collapse sets in.

The best means for disinfecting a room, according to this authority, is the burning of sulphur or bisulphide of carbon in it —an ounce and a half of sulphur for every 100 cubic feet of clear space.

In conclusion, I am sanguine enough to believe that if the suggestions to which I have drawn attention in this paper are intelligently acted upon, and my observations strictly attended to and rigidly enforced, the lives of many helpless children may be saved, and sorrow and unspeakable grief diverted from many an aching heart.

ARTICLE IV.—*On the Relationship of some Forms of Integumentary Atrophy.* By DYCE DUCKWORTH, M.D., F.R.C.P., Assistant-Physician to St Bartholomew's Hospital.

THE subject of localized atrophy occupies at the present time a somewhat indeterminate place in nosology.

In this communication I wish more particularly to call attention to some forms of local wasting which occur in the integument, and to point out a relationship which I conceive to exist between them.

It is, perhaps, not sufficiently realized that morbid conditions may be of greater or less intensity, and it is still common for bodily ailments to be regarded too much as definite entities, and also as definite quantities, whenever and wherever they exist.

Putting aside acute diseases generally, it is certain that many chronic disorders occur in varying degrees of intensity. This is true of phthisis, Bright's disease, diabetes, myelitis, and of many skin diseases. A relationship exists between the milder and graver forms, although the expression of it may not always be completely manifested.

I believe this to be the case with respect to localized atrophies, and I shall now refer to such instances as claim the attention of the physician.

To take, first, the simplest forms, the pigmentary diseases. There are the two conditions recognised as leucopathia and canities, affecting respectively the Malpighian layer of the skin and the colouring matter of the hair. In the same case, the one tissue may be affected by itself, or both may be influenced together. The pathogeny of these conditions is now attributed, rightly or wrongly, to defective innervation. In my opinion, strong evidence in favour of this view is, in many instances, not far to seek.

Passing next to more obvious atrophies, there are met with sharply defined patches of area in which the hair is lost and the integument distinctly wasted, so that it is depressed below, and less sensitive than, the surrounding parts, also thin and glossy. This is a disorder which has been the subject of much study and debate. For a long time this disease was supposed to be a form of ringworm, and a definite epiphyte was described and depicted as its cause.

Of late years this view has been discarded, and the theory of defective innervation has been invoked to explain the phases of the derangement. Later still, this theory has been assailed, and certain bacteria have been described as the vicious agents, thus restoring the parasitic idea. For myself, I hesitate to accept the latter theory, believing it to be inconsistent with clinical observation as applied to the whole phenomena of the disorder. I have elsewhere[1] expressed my views at length as to the nature of area, and shall only add that this disease may occur in varying degrees of severity, being sometimes mild and temporary, and sometimes grave and permanent.

It is not unimportant to note further that pigmentary atrophy is sometimes associated with it in the form of leucoderma, and that such change always accompanies the restoration of the parts, skin and hair, to health.

From this condition I pass to consider the local atrophy observed in maculated and striated patches, and that resulting ultimately from scleroderma in all its varieties. In these cases there is always to be noted a primary phase, of which vascular disturbance and new growth form part. It is a matter of common opinion that these lesions result from disordered innervation, and many facts support this view, especially those which indicate that the disease follows the line of distribution of certain nerves, and may be the seat of sensory disturbances. It is also interesting to note that pigmentary changes are sometimes associated with these conditions. I am aware that dermatologists place sclerodema and morphœa, which I believe to be only varieties of one malady, amongst hypertrophic affections, and in their earlier phases this

[1] *St Barth. Hosp. Reports*, vol. viii., 1872, p. 144.

may be justifiable. But in the evolution of any case the atrophic stage is reached, and this, I think, must be held to warrant the inclusion of these disorders amongst local atrophies.

The local changes described as "glossy skin" may fairly be mentioned in association with the nutritive perversions just mentioned, and no doubt can be entertained as to their direct dependence upon nerve-injuries.

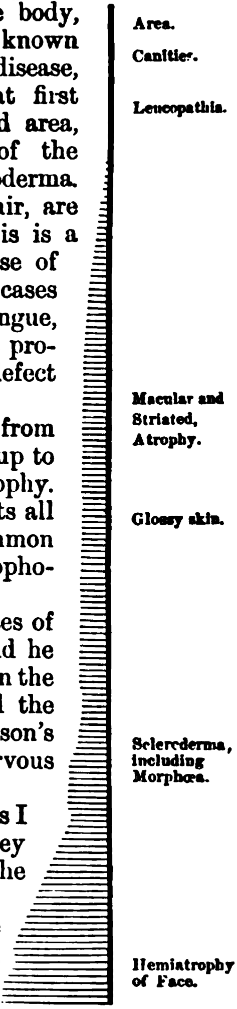
I come, lastly, to the most extreme form of acquired localized atrophy anywhere met with in the body, namely, that definite and accentuated disorder known as *Hemiatrophia facialis progressiva.* This disease, though happily somewhat rare, presents at first many features in common with leucopathia and area, and, ultimately, many of the characters of the atrophy reached in ordinary forms of scleroderma. Pigmentary changes, both in the skin and hair, are sometimes associated with this change. This is a disorder which affects tissues other than those of the integument, since the atrophy in some cases distinctly extends to the bones, cartilages, tongue, and other structures. To my mind, no more profound or exquisite example of nutritional defect due to perverted innervation can be adduced.

I have now traced a series of local atrophies from the simplest expression in pigmentary change up to the gravest form met with in unilateral facial atrophy.

I believe that a chain of relationship connects all the varieties I have mentioned. The basis common to all is a neurosis, or, more strictly, a tropho-neurosis.

Professor M'Call Anderson has described cases of leucopathia (vitiligo) associated with area, and he believes there is a very close relationship between the two conditions,[1] as also between them and the cutaneous pigmentary manifestations of Addison's disease, all being dependent upon perverted nervous influence.

I believe a right conception of all the disorders I have here called attention to will be formed if they be placed in the category of tropho-neuroses; the least expressed forms, such as leucoderma and canities, being at one end of the scale, and the most marked forms, such as scleroderma and progressive facial atrophy, at the other. The relationship I seek to express may be diagrammatically represented by the accompanying figure.


Area.
Canities.
Leucopathia.
Macular and Striated, Atrophy.
Glossy skin.
Scleroderma, including Morphœa.
Hemiatrophy of Face.

It is beside the purpose of this communication to enter upon the vexed, and most important question of trophic nerves, or the exact mechanism of the production of the several disorders I have mentioned.

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[1] *Glasgow Med. Journal,* 1879.

These trophic changes are more frequent in the lines of distribution of certain nerves than in others, and the parts supplied by the fifth nerve are perhaps more commonly affected than other districts. Especially are the changes grave and profound when the Gasserian ganglion is implicated.

Note.—Since writing the above I have discovered that Dr Duhring has included unilateral facial atrophy as a form or variety of morphœa.[1] He places the disorder in the category of the *Hypertrophies*, along with scleroderma, etc. I must join issue with this eminent authority on the question of his exact classification, but I rejoice to be supported by his opinion as to the general type of the disease.

ARTICLE V.—*Address at the Opening of the Forty-Second Session of the Edinburgh Obstetrical Society.* By Professor ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., President of the Society.

(*Delivered to the Obstetrical Society of Edinburgh, 8th November* 1882.)

GENTLEMEN,—The season that gathers together the scattered members of the community from their summer wanderings calls us together once more to the pleasant work and fellowship of the Edinburgh Obstetrical Society. We commence to-night our forty-second session.

That the session should be opened on this occasion by an address from your president is not a suggestion of mine. Sincerely grateful as I am for the kindness that has placed me here, I am more than doubtful whether it were a good way to show my gratitude by detaining you even for a short time with a formal address, who seem to myself to have already too frequently inflicted my lucubrations upon the Society. But our indefatigable Treasurer, who has a most admirgble faculty of making us remember at fitting times our indebtedness to the Society, insists that a presidential address is due; and, with his usual persuasive persistency, he has maintained that at least a public tribute is due to the memories of several of our Fellows of whose decease we have not yet made any record. He has furnished me with a list of names, some of them names that will long be very notable, that will henceforth disappear from the roll of our Honorary, Corresponding, or Ordinary Fellows. Briefly to recall the good work they have done may stimulate us to some healthy activity ere to us also the night cometh when man's work is done.

Thomas Radford is a name that has been known to midwifery for the greater part of the century. He started in practice in Manchester as a L.S.A. in 1817, but at later periods got the degrees of M.D. of the University of Heidelberg, the fellowship of the R.C.P. of Edinburgh, and of the R.C.S. of London. He was early appointed surgeon to the Manchester and Salford Lying-in Hospital, and with that institution, which became afterwards the St Mary's Hospital for Women and Children, he maintained his connexion for the long period of sixty-three years, and some years before his death endowed it with his valuable library and museum. When I had the privilege of visiting the hospital some three years ago with my friend Dr Lloyd Roberts, I had the unexpected pleasure of being introduced to the venerable obstetrician, who had come to attend a meeting of the board of directors. It was delightful to see the enthusiasm with which he talked of obstetrics, and which was manifested by the republication, just a year before his death, of some of his essays on the Cæsarean operation in a volume which is enriched with references to some of our most recent literature. He wrote many papers, much valued at the time, on various subjects in midwifery, but the most important service he rendered was his defence of the Cæsarean section, which, but for Dr Radford, ran great risk of being relegated to the category of unjustifiable operations. In the first session of this Edinburgh Obstetrical Society, among the first group of distinguished obstetricians proposed to be elected as Corresponding Fellows, the first name on the list is that of Dr Radford, proposed by Drs Ransford and Beilby, the first secretary and the first president. This earliest of our Corresponding Fellows died on the 29th of May 1881, at the ripe age of eighty-eight.

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[1] *Diseases of the Skin*, 2nd edit., Philadelphia, 1881, p. 381.

On the 21st October 1881 our Society lost one of the most distinguished of its honorary Fellows, and obstetrics one of the worthiest of its representatives, through the death of Dr M'Clintock of Dublin. Of his numerous contributions to the science and art of obstetrics, the most important are, *Practical Observations on Midwifery*, published in conjunction with Dr Hardy, giving the record of their experience in the great lying-in hospital of Dublin; *Clinical Memoirs on Diseases of Women*, which contains a mine of information regarding some of the rarer as well as some of the more common affections with which we have to do; and his masterly edition of *Smellie's Midwifery*, which is at once a monument of his wide acquaintance with obstetric literature, ancient and modern, and of his powers of close observation and careful induction. Eighteen years ago our Society honoured itself by putting his name on the list of its Honorary Fellows. On the occasion of the visit of the British Medical Association to this city he was one of the distinguished strangers selected by the University to obtain the honorary degree of LL.D. He was the first obstetrician to become a member of the General Medical Council. And when the International Medical Association held its first meeting in Britain, he was called to preside over the obstetrical section. His genial disposition won him friendships everywhere. In his own city professional honours were heaped upon him, and at his death every member of the profession felt they had lost a friend.

One of the best of our Edinburgh graduates of 1862 was Mr Ellis Frederick Thorold, Master of Arts of the University of Oxford. I remember him as a very earnest and thoughtful student, somewhat older than the generality of his fellow-graduates. He took special interest in the clinical work of the gynecological ward, and the winter following his graduation he spent in Chapel House as house surgeon to the Royal Maternity Hospital. During his residency there he became a Fellow of this Society on the recommendation of my uncle and myself, and contributed a communication on "Hæmorrhage from the Umbilical Cord." He died last year at Plymouth, where he had settled in practice.

Dr Cochrane, a venerable and much respected member of the profession, died in October 1881. He was proposed by Dr Pridie and Dr Keiller on 10th April, and admitted a Fellow of the Society on 25th April, 1860. His name, so far as I have been able to trace it in the minutes, appeared only once on our billets as the author of a communication on "A Case of Accidental Hæmorrhage;" but many of the Fellows present will have a lively remembrance of the frequency with which he took part in our discussions, and the value he imparted to these by the narration of apposite cases gathered from his own long and extensive practice.

In the year 1873 Dr Alexander Edward Macrae, who had shortly before settled as a practitioner in Penicuik, became a Fellow of our Society. The energy and enthusiasm with which he devoted himself to our branch of the profession were evidenced by the frequency with which he found his way from the foot of the Pentlands to our evening gatherings. He often took an intelligent part in the debates, and sometimes contributed special communications. Such were his "History of a Patient who had been the subject of Vesico-vaginal Fistula, and in whom Conception occurred after the Fistula had been closed," "History of a Case of Twin Conception," and his papers "On the Use of Electricity and Galvanism in Labour." He died on 20th April 1882.

"On 13th May, Sir John Rose Cormack, M.D., Physician to the British Hertford Hospital, at 364 Rue St Honoré, Paris." Such was the announcement in the death columns of the various papers and journals that carried sorrow to many a heart. Though for the last twelve years of his life a resident in Paris, at whose university he graduated as Doctor of Medicine in order to acquire the legal right to practise, and among whose inhabitants he rendered extensive and efficient service during the distresses that ensued on its conquest by the Germans, John Rose Cormack began public life as an Edinburgh graduate, and some of his earliest and best work was done in this city. An enduring monument of his energy and ability remains among us in the *Edinburgh Medical Journal*, which is a lineal representative of the periodical which he established in 1841 under the title of *Edinburgh Monthly Journal of Medical Science*, and which he himself conducted for a series of years. For a time he was an extramural lecturer on medical jurisprudence. He was proposed as a member of our Society, on 9th November 1840, by Drs Ransford and G. Paterson, the then secretaries, was elected on 24th November, and on 8th December took his seat. It does not appear that he took any active part in the work of this Society, but his interest in the subjects which come before us for discussion here is evidenced by various papers on diseases of women and children. Such was his thesis for graduation at the University of Paris, "On the Entrance of Air through the Open Orifices of Uterine Veins as the Cause of Danger and Sudden Death after Delivery," "Puerperal Convulsions," "The Value of the Dark Abdominal Line as a Sign of Recent Delivery," "Dystocia from Cystous Kidney in the Mature Fœtus," "Hernia of the Uterus," etc.

Last of all, I have to remind you of the great loss our Society has sustained through the death of Dr Hamilton of Falkirk. A native of Edinburgh, and a graduate of the University, he settled in Falkirk in 1833, where he soon got into an extensive practice, and did the hard work of a country doctor for nearly half a century. He was possessed of an active disposition and a vigorous intellect, and to the close of his life busied himself with modifications in various directions of midwifery practice, the very last volume of the *Edinburgh Medical Journal* containing an account of an instrument he proposed for reposition and retention of the prolapsed funis. But it was, above all, in connexion with the question as to the frequency with which forceps should be employed in labour that Dr Hamilton has made a mark deep and distinct on British midwifery. Early in his practice he began to use the forceps more frequently than was the case with almost any other practitioner, and found that by their early use he could not only save his own time, but have a larger proportion than usual of labours terminating successfully both for mother and child. In the volume of the *British and Foreign Medico-Chirurgical Review* for 1852, he was horrified to read, in an article reviewing Professor Murphy's *Principles and Practice of Midwifery*, statements such as the following:—"So far as the children are concerned, the proportion still-born is very much the same whether the forceps be employed or not, the difference, if any, being in favour of leaving these (laborious) cases to nature. With respect to the mother, the experience of Drs Collins and Murphy leads to the conclusion that a mortality not greater, but probably considerably less, attends the non-interference practice, as compared with the results of forceps-cases that have been recorded." This provoked him to send his first contribution on the subject to that journal, in which he announced that instead of using the forceps once in 400 or 700 cases, he was using them once in every seventh or eighth case, with the marvellous result that 317 children had been born alive, with the single exception of one that had presented by the breech. On two occasions, at an interval of twenty years, he came to Edinburgh and gave us the results of his forceps experience. On 13th November 1861 he was proposed as a Fellow by Sir James Simpson, and seconded by Dr Moir; and at the following meeting, on 27th November, he was admitted, and engaged the attention of the Society the whole evening in hearing and discussing five different communications. He described his plan for arresting hæmorrhage from the gravid or the diseased uterus; his method of arresting post-partum hæmorrhage; an apparatus which he had contrived for the performance of transfusion; and showed a preparation of the perforated parietal bone of an infant which was supposed to have met with foul play. But his first and chief communication on that occasion had reference to his employment of the forceps, by the frequent application of which he stated that he could then point to 731 children consecutively born alive. The discussion that night was rendered more interesting by the presence of Dr Figg of Bo'ness, who stated that he could adduce the same kind of evidence in favour of turning as had been brought forward by Dr Hamilton in favour of forceps, viz., an unusual number of deliveries effected without any attendant danger or mortality. Sir James Simpson was also present, and, in illustrating the dislike to the use of the forceps entertained by some of the Dublin obstetricians, he told how, when Dr Beattie had adduced statistics in favour of the use of the forceps in labour, Dr Clarke, then Master of the Rotunda, had replied by sending him a challenge to fight a duel. Of Dr Hamilton's last appearance in the Society it is unnecessary to speak. The figure of the sturdy veteran, speaking proudly of his 1371 successive births with only three deaths, among which there were 190 forceps cases with two deaths, is still fresh in our memory. It behoves me, however, to say that so high was the esteem in which he was held in this Society, the council were prepared to have nominated him for the presidency, had he not withheld them from such a step because he felt the pressure of work and years weighing too heavily upon him. It would certainly have been an honour for the Society to have had him as its president, and I know I have the sympathy of every member in saying that we all heard of his death on the 8th of July 1882 with profound regret.

If I detain you a little longer to speak of the instrument which Dr Hamilton did so much to popularize, it will not be to deal with any of the points in regard to which he so healthily stimulated our debates. Not that there is not much that might be said as to the best kind of instrument, the best modes of application, and the proper indications for employing it. It will be long ere the last word is spoken in answer to such questions as these;

and much will be said ere that supreme word has been uttered. I will rather call your attention to the beginnings of this beneficent invention, and to the members of the family among whom it originated. I do so because an extremely interesting work has just appeared, which few of the Fellows can as yet have read, which sets in a clear light the characters and relations of the various members of the Chamberlen family, and which traces back the invention of the forceps, with something approaching to certainty, to one of the group. For this remarkable volume, entertaining as a novel, and informing as a scientific treatise, the profession and the public are indebted to the marvellous industry and ingenuity of Dr J. H. Aveling of London, one of our Corresponding Fellows. Dr Aveling's industry is evidenced by the amount of research it has cost him to gather together the material, and his ingenuity by the skill with which he has sifted and arranged it so as to make the men and their work seem almost visible to us.

The history begins in the year 1569, when France had been depopulated and devastated by repeated religious wars, and many of the noblest of her sons had to seek refuge in foreign lands from the persecutions to which they were exposed. Among the Huguenot families who came at that time to enrich the blood of England was that of William Chamberlen and his wife, Geneveive Vingnon, who fled to Southampton just in time to escape the fate of the many victims of the St Bartholomew's Day massacre. He seems to have been a surgeon, and of his five children, two—who both bore the same Christian name, Peter—entered the medical profession.

The exact date of the birth of Peter Chamberlen the elder is unknown, but in 1572 he was old enough to attest to the birth and baptism of his brother Peter the younger at Southampton; and in December 1631 he died at London or the neighbourhood, at the age, Dr Aveling believes, of seventy or eighty.

He seems to have had influential relatives in the metropolis, where he succeeded so well in practice as to become surgeon to the wife of James I., from whom, on some occasion, he had received a diamond ring, and afterwards to Henrietta Maria, wife of Charles I.

It is to this Peter Chamberlen the elder, born in Paris, brought in boyhood or youth to Southampton, and practising in London with the qualification of the Barber-Surgeons Company, that Dr Aveling attributes the invention of the forceps. He has left no writing; but his will, which is interesting, is reproduced in full by Dr Aveling. It clearly shows that he had not fallen from the faith of his Huguenot father; and after bequeathing certain sums to the poor of the French Church in London, and to the poor of two London parishes and of Down, in Kent, where he had a country residence, he leaves the bulk of his estate to the children of his daughter Esther, who had married a Scotsman of the name of Cargill.

Peter, the younger brother, born in 1572, also practised in London as a member of the Company of Barber-Surgeons. There is evidence that both brothers were in frequent conflict with the College of Physicians for passing the bounds of chirurgery and invading the province of practice of medicine; but the younger Peter is found more frequently in the black books of the college. Aided by his elder brother, he made a series of vigorous attempts to promote the institution of an "Incorporation of Midwives," but without success; and he died on 16th August 1626, at the age of fifty-four.

The eldest son of Peter the younger bore also the name Peter, and is the most remarkable character in this family group. Born on 8th May 1601, he went, when fourteen years of age, to Cambridge, afterwards to Heidelberg and Padua, and received the degree of Doctor of Medicine in Padua University at the age of eighteen. In 1628 he was elected a Fellow of the College of Physicians of London, "but it was ordered that he be gravely admonished by the mouth of the president to change his mode of dress, and no longer follow the frivolous fashion of the youth at court, and that he be not admitted until he conforms to the custom of the college and adopts the decent and sober dress of its members."

Dr Peter's father and uncle had already established a family reputation in the department of obstetrics, and he himself diligently followed the same calling with his higher qualifications. The intellectual activity and vigour of which he gave evidence in his early graduation he continued to manifest throughout his long life—sometimes in the strangest directions. He had a long battle, in which he vainly struggled to bring about the establishment of the "Incorporation of Midwives" which his father had proposed to institute. This "Incorporation of Midwives" was intended to develop a complete system of instruction and registration of the women who practised midwifery, and was to have had Dr Chamberlen as its president and ruler. His protracted struggles, however, only drew forth bitter opposition on the part of physicians and midwives, who united to condemn his project; and he finally washed his hands of the business in a pathetic pamphlet entitled, *A Voice in Rhama; or the Cri of Women and Children echoed forth in the Compassioun of Peter Chamberlen, Doctor in Physic, Fellow of the Colledge of London, and one of his Majesty's physicians extraordinary.*

I cannot dwell on all the subjects which occupied his fertile imagination,—how he tried to get Parliament to assist him in carrying out a scheme to establish baths and bath-stoves; how he attempted to amend the finances of the nation and improve the condition of the poor; how, during the period of the Commonwealth, he joined the Baptists and embarked on a sea of religious discussions; how, in 1666, when in Holland, he threw all his enthusiasm and energy into a project for propelling ships and carriages by wind; how, at a later period, he proposed a method of phonetic writing, and obtained from the king a grant of the sole benefit of his invention for fourteen years; how he had to write pamphlets, such as one entitled *The Sober Man's Vindication*, to prove that he was neither a madman, a lost sheep, nor a Jew (although he had come to observe the seventh day of the week as Sabbath); and how he wrote letters to Archbishops Sheldon and Sancroft with the view of bringing about a reconciliation of the churches,—all this is related and illustrated with extracts in a long series of pages that will amply repay perusal. He had purchased an estate near Maldon, in Essex, called Woodham Mortimer Hall, and there he died in 1683, in the eighty-third year of his age. The lengthened inscription on his tombstone, after giving the dates of his birth and death, and the number of his children, grandchildren, and great-grandchildren, says:—"The said Peter Chamberlen took ye degree of Doctor of Physick in several Universities both at home and abroad and lived such above threescore years, being physician in ordinary to three Kings and Queens of England, viz., King James and Queen Anne, King Charles ye First and Queen Mary, King Charles ye Second and Queen Katherine, and also to some foreign Princes, having travelled to most parts of Europe, and speaking most of the languages. As for his religion was a Christian, keeping ye Commandments of God and faith of Jesus, being baptised about ye year 1648, and keeping ye 7th day for ye Sabbath about 32 years.

"To tell his learning and his life to men,
Enough is said by Here lyes Chamberlen;
Death my last sleep, to ease my careful head,
The grave my hardest, but my easiest bed;
The end of sorrow—labour and of care,
The end of trouble, sickness, and of feare.
Here I shall sin no more—no more shall weep,
Here's surely to be found a quiet sleep;
Death's but one night, my life hath many seen,
My life brought death—death brings me life againe.
Seeds rise to trees—hearbes rise again from seed,
Shall bodies then of men obtain worse speed?
We dayly die, entombed in sleep and night,
But in the morning we renue our light;
Hence spring my joyes and comfortes evermore,
I cannot feele but what Christ felt before.
Wee now believe, and heare, and talk by guess,
Then I shall see, and what I see possess;
And when I wake wrapt in Eternal light,
Of God and Christ, I know no more of night;
Crown'd with Eternal glories ever blest,
Oh! happy rest that brings me all the rest.
Bodies calcin'd to iemmes like stars shall sing,
Ravish'd with joyes and praises of my King.
Praised be God my Saviour, Praise his name;
Angels and Saintes sing with me his fame.

These verses were found, made, and ordered by Dr Peter Chamberlen, here interred, for his epitaph."

Dr Peter's eldest son, Hugh Chamberlen, is the member of the family with whom we have been hitherto most familiar, because he is the hero of the well-known incident related by Mauriceau, whose work on midwifery Hugh Chamberlen translated into English after he had vainly tried in Paris to sell the family secret of the forceps for 10,000 crowns. He seems, like his father, to have been an erratic genius, and to have had a somewhat eventful career. Spending the greater part of his life in London as an obstetrician, where, like his grandfather, he comes under the ban of the College of Physicians for malpractice, but retains the favour of those in high places, having been called in to assist at the birth of the Pretender, and having had "the honour to lay the Princesse (Anne of Denmark) of a son, which immediately dyed," on which occasion "he had a hundred guineas for his pains," he eventually left the island and retired to Holland, where he seems to have died. It is known that he practised for some years in Amsterdam, where he made the acquaintance of Roonhuysen, to whom he sold the family secret. From the circumstance, however, that the Amsterdam obstetricians used not the forceps, but the lever, it has been shrewdly suspected that he retained the best half of the secret to himself. He also had published projects for the amelioration of the country, one of which, for a new establishment of physic, is propounded in a medical work with the following title, *A few Queries relating to the Practice of Physick, with remarks upon some of them, modestly proposed to the serious consideration of Mankind, in order to their information how their lives and healths (which are so necessary and therefore ought to be dear to them) may be better preserved.* By H. Chamberlen, Physician in Ordinary to the late King Charles II. London: 1694. In this manual he discusses "Whether women with child and in childbed may not safely, when the disease requires, both vomit, bleed, and purge, provided it be with due caution?"

His *Proposal to make England rich and happy by the establishment of a Land Bank* has been sharply scarified by Macaulay as the proposal of a political mountebank, "worthy to have been a member of that academy which Gulliver found at Lagado." In 1702 he made a proposal regarding which Dr Aveling says, "It is very remarkable that this, the last of all the projects proposed by the Chamberlens, should have been the only one destined to be realized." Perhaps he may have been attracted to Scotland by his relationship to the Cargills. "In 1700 he was urging his land bank project on the Parliament of Scotland, and 1702 he began to promulgate a plan for the union of England and Scotland, and published a volume on the subject under the following title: *The Great Advantages to Both Kingdoms of Scotland and England, by a Union.* By a Friend to Britain."

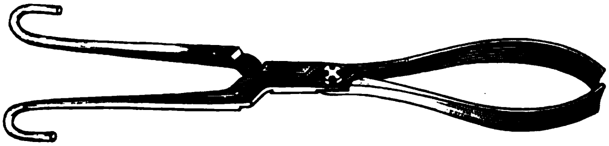
Besides Hugh, Dr Peter Chamberlen had two other sons who were medical men and obstetrical practitioners. Of these Paul, the second son, seems to have been somewhat of a charlatan. Of John, his fourth son, all that is known is, that he was a successful midwifery practitioner, possessing the family secret.

The professional succession in this Asclepiad family, as they were called by Dr Peter Chamberlen, was continued into another generation in the person of Hugh Chamberlen, junior, the eldest son of Hugh, the translator of Mauriceau. He was born in 1664, and the *London Journal* of Saturday, June 22nd, 1728, has this announcement:—"*Deaths.*—Monday night last died Dr Chamberlain, a famous physician and man-midwife, of gout in his stomach." Dr Aveling quotes another journal of the period as stating, "The eminent physician and man-midwife, Dr Hugh Chamberlen, who died on Monday night, was grandson of the famous Dr Peter Chamberlen, who, with his father and uncles, were physicians to King James I., King Charles I., King Charles II., King James II., and King William, to their respective queens, and to Queen Anne. He was the last of that ancient family who practised the art of midwifery in the kingdom except Dr Walker, in Great Suffolk Street, who is grandson to the forementioned Peter Chamberlen." This Dr Hugh Chamberlen had also made good profit of the invention of his Huguenot relative, as appears from his last will and testament. He was an intimate friend of John Sheffield, Duke of Buckingham, and his duchess, who was the daughter of King James II.; and after his death a magnificent cenotaph was erected in his honour in Westminster Abbey by the Buckingham family. A copy of the will of Hugh Chamberlen, junior, furnishes the finale to this series of remarkable biographies.

Dr Aveling enhances the value of his fascinating volume by appending "A Critical Essay on the Invention of the Midwifery Forceps." I cannot stay, however, to quote from it, as in the few minutes yet left to me I should like to ask the question, Who first introduced forceps into Scotland? I ask it without being able to answer it. Very likely Hugh Chamberlen had a pair of forceps in his valise that time he came to Scotland to push his land bank scheme; but if he tried to make money of his secret here as he did elsewhere, he found the Scots too canny to traffic with him. The earliest paper that I know on the subject is to be found in volume iii. of the *Medical Essays and Observations* published by a society in Edinburgh in 1734. It is entitled, "The Description of a Forceps for extracting Children by the Head when lodged low in the Pelvis of the Mother," by Mr Alexander Butter, Surgeon in Edinburgh, and begins thus:—

"The Forceps for taking hold of a Child's Head when it has fallen so far down among the Bones of the Pelvis that it cannot be pushed back again into the Uterus, to be extracted by the Feet, and when it seems to make no Advances to the Birth by the Throws of the

Mother, is scarce known in this country, though Mr Chapman tells us it was long made use of by Dr Chamberlane, who kept the Form of it a Secret, as Mr Chapman also does. I believed, therefore, that a sight of such an instrument which I had from Mr Dusé, who practises Midwifery at Paris, and who believes it to be his own Invention, would not be unacceptable to you, and the Publication of a Picture of it may be of use to some of your readers."



Happily this engraving of the instrument, which accompanies the letterpress, makes it easy for us to recognise that it is the same kind of instrument as I now show you from the collection of my predecessor. It is clearly a French instrument, peculiar in that the blades are not fenestrated, and that there are two points at which the instrument could be locked, — one close to the handles, the other farther up the shanks, towards the blades. Butter says:—

"When this Instrument is to be used, the Axis of the Hinge"—as we should say, the pivot of the lock—" is to be taken out, and each Blade, being directed by one hand in the Vagina, and betwixt it and the Side of the Child's Head, is to be introduced separately into the Vagina as far as immediately above the Ears, then the two Blades of the Instrument being crossed, the Axis is put into the Hinge which the Operator finds most convenient to employ, after which the Child's Head is to be taken firm hold of, and the Operator, pulling by the Handles, extracts the Child.

"In several cases where it may be requisite to dilate the lowest part of the passage at the same time that the Extraction is making, the Blades of the Forceps require to be separated, and are not to be crossed or moved on a Hinge.

"You will easily see that often, when the Head of a child is too far forward on the Ossa Pubis, or turned too far backwards, that one blade only of this Forceps can be employed to bring it to a right Situation, and to assist the Birth." In other words, it will sometimes be better, instead of applying both blades and using the instrument as a forceps, to apply only one of the blades and employ it as a lever.

Part Second.

REVIEWS.

The Physician Himself, and What he should add to his Scientific Acquirements. By D. W. CATHELL, M.D., late Professor of Pathology in the College of Physicians and Surgeons of Baltimore, etc., etc. Second Edition, carefully revised. Baltimore: Cushings & Bailey: 1882.

THIS volume, which extends to 203 large octavo pages, with a carefully framed index, will repay an attentive perusal. It is written in a spirited style, and sets forth clearly and forcibly much good advice for all young medical men who desire to avoid mistakes of a personal and social kind in entering on practice. As the title might indicate, it emphasizes the conviction which the author has reached by experience, that high professional attainments are only a single element in the circle of qualifications which ensure success. This will be regarded as a truism by many; but let them read Dr Cathell's eleven chapters, and they will discover a startling array of dangers and temptations which, if not avoided, may mar their professional prospects. We spoke of young men beginning practice; but, on the principle of "never too late to mend," we believe that old practitioners may derive a good many hints, and, in looking back on life, may be led to confess that they had said and done things which a master so shrewd as the author might have prevented.

The tone of the book is high, although sometimes ideas are expressed tending rather to coarseness. We have satisfaction, however, in quoting two passages as fair specimens of the prevailing style.

"Always feel and show respect for your seniors in practice. There is probably no type of medical man so unworthy of respect as the one who shows contempt for his seniors. You may excel the older physicians in severely scientific and technical points, but they have an experience and an intuitive forecast of the necessities and the results of cases that far outweigh mere book knowledge, and make them better logicians and much better practitioners; because knowledge derived from observation and experience is more like part of one's very nature than that gotten from any other source, and is fixed indelibly in both one's senses and reason. Remember that although younger doctors indulge more in scientific 'extras' than older ones, yet the art of curing disease owes more to good judgment and common-sense bedside experience than to anything else" (P. 66).

"Be ever ready not only to allow but to advise patients to have spiritual comfort. Religion does good not only hereafter but here;

indeed, the presence of religious faith is a wonderful power, and if any physician does not recognise it he lacks the a b c of philosophy and the rudiments of observation. You will see many a poor, sick, woe-worn, despondent, and broken-hearted wretch calmed in mind and body by its cheering influence, and aided by it to get well if his ailments are at all curable; if not curable, his spiritual wan being supplied, he becomes willing, or even anxious, for the hour of departure" (P. 83).

Elephantiasis Arabum. By Arthur C. Heffenger, M.D., passed Assistant Surgeon, United States Navy.

One Hundred and Thirty-eight Cases of Amputation of the Scrotum for Elephantiasis Arabum. By George A. Turner, M.D., Late Medical Missionary, Samoa. 1882.

Dr Heffenger, who operated on only one case, and who gives no dates, makes no reference to any one else having operated in Samoa, except where he says, "The only treatment which has been attempted in Samoa has been directed to the scrotum, the excision of which is a common operation with visiting American naval surgeons, and most popular among the natives." This sublime ignorance of other persons and nations is rather characteristic of Americans.

Dr Heffenger discusses in his pamphlet mainly the probable cause of the disease. He attributes it to "constant chilling and irritation of the scrotum produced by the dampness of the earth," on which the natives sit with only a thin mat under them. There are thus produced attacks of "erythematous swelling, attended by a feeling of heat and itching, and now and then a little fever." These attacks, recurring frequently, leave the skin thickened, and thus the hypertrophied condition is produced. In the case operated on, the penis and testicles were saved. There was no effort made to restrain hæmorrhage, and the patient consequently lost much blood, but recovered from the operation, and was doing well when Dr Heffenger left the island a week after.

Dr Turner's paper is a reprint from the *Glasgow Medical Journal*, and is most interesting and valuable.

Dr Turner speaks with authority, having lived in Samoa for twelve years prior to 1880, and having operated on 138 cases. It is most interesting to find a medical missionary doing such good work, both for his patients and also for his professional brethren, by publishing the results of his experience. We are delighted to see that one who goes among the heathen to preach the gospel is qualified also to discharge his professional duties in so striking and efficient a manner as Dr Turner has done. It is not often that a surgeon can record 138 major operations with only two deaths. Dr Turner's two fatal results were from diarrhœa and fever respectively.

The sizes of the tumours removed ranged from 7 lbs. to 80 lbs. One tumour gained the size of 54 lbs. in two years.

The author attributes his success to four things:—1. The use of a clamp to control hæmorrhage, which he considers preferable to Esmarch's fillet; 2. Covering in the wound with flaps of skin; 3. The use of antiseptic dressing; and 4. "The fine physique, coolness, and powers of endurance of the Samoans."

As an instance of the last, he mentions that a man witnessed an operation performed, and immediately after lay down on the table and had himself operated on. The operator must have been very sure both of himself and of his patient before he could have permitted this.

The steps of the operation, as recommended by Dr Turner, are as follows:—First, the tumour is elevated for half an hour to empty it of blood as much as possible, then the clamp is adjusted, and when the anæsthetic has been administered, and care taken that there is no hernia, the clamp is rapidly screwed tight. The clamp was similar to one described in Druitt's *Vade-Mecum*, only with a notch in the centre to prevent undue pressure on the urethra. After the clamp is on, a small flap is cut from behind, the tumour being held up for the purpose, then two or three flaps are cut from the sides and front, and the penis and testicles dissected out. After this the bulk of the tumour is removed by a few sweeps of the knife. The vessels are then tied, twenty or thirty ligatures being necessary, the clamp removed, a drainage-tube put in, and the flaps brought together. The anæsthetic employed by Dr Turner has mainly been the bichloride of methylene, which gave perfect satisfaction. Dr Turner's great success we are inclined to attribute mainly to the employment of the clamp, for it is quite evident, from the number of vessels requiring ligature, and the proverbial tendency of the perineal vessels to bleed, that without such means of restraint hæmorrhage would certainly be excessive. His success is all the more remarkable that he was assisted mostly by natives, only on a few occasions having the advantage of assistance from the surgeons of British, German, and American ships.

Dr Turner gives photographs of some of his patients before and after operation.

First Aid to the Injured. Five Ambulance Lectures. By Dr FRIEDRICH ESMARCH. Translated from the German by H.R.H. The PRINCESS CHRISTIAN. London: Smith, Elder, & Co.: 1882.

THIS is the best book of the kind we have seen. The lectures are both interesting and instructive. They may be understood by any one, and ought to be read by all. Even medical men and students would get useful information, especially as to extemporizing methods of treating fractures and conveying injured persons. We wish that

Professor Esmarch's recommendation that suitable litters for conveying injured persons should be provided in all cities would be carried out. The illustrious lady who has translated the lectures has done her work well, and provided English readers with a technically correct and very readable book.

The Surgical Treatment of Hæmorrhoids. By WALTER WHITEHEAD, F.R.C.S., F.R.S. Edinburgh. Reprint from *British Medical Journal.* 1882.

MR WHITEHEAD'S method for the removal of hæmorrhoids consists mainly of three stages—first, cutting through the mucous membrane with scissors; secondly, twisting off the pile; and lastly, stitching the mucous membrane to the skin at the margin of the anus. As Mr Whitehead is so well known for his operation on the tongue by means of scissors alone, one cannot help thinking that he has adopted the above operation because it is performed with the same implement. The operation seems to us a good one, and doubtless applicable to certain cases, but we cannot see any reason why it ought to supersede the clamp and cautery or ligature altogether. There is one thing about Mr Whitehead's paper to which we would direct his attention. He seems to consider all hæmorrhoids to be of the same character, all simply varicose dilatations of the hæmorrhoidal veins. We would ask him if he has never seen red, raspberry-like structures, which seem to differ as much from the dark-coloured ones as a nævus does from a varicose vein. We would also ask if Mr Whitehead's method of treatment is applicable to external as well as internal hæmorrhoids.

The rules recommended for the preparation of the patient before operation are very good and simple. On the whole, Mr Whitehead's operation is a valuable addition to the operative treatment of a very common and troublesome complaint.

Regional Surgery, including Surgical Diagnosis; a Manual for the Use of Students. Part I. Head and Neck. By F. A. SOUTHAM, M.A., M.B. Oxon., F.R.C.S. Eng., etc. London: J. & A. Churchill: 1882.

MANUALS for the use of students on all subjects likely and unlikely are so common that one might suppose the student of the present day possessed of unlimited means for purchasing books, or possessed of the idea that knowledge could be bought ready printed.

Out of all the trash that appears in the way of cramming material there is little really worth having or reading. But this book by Mr Southam is really worth something to those who already know more than a little of surgery. It contains a great deal of information in a very get-atable shape. It can be of little use to students as a "cram," for it contains nothing about treatment. The preparation of this work must have cost the author immense labour and pains, and the result does him credit, for there is great accuracy in description and detail. Repetition is prevented by numbering of the paragraphs in the book, and reference is made to these numbers for detailed accounts. There are several tables with parallel columns for comparative diagnosis, a style of drawing comparisons between similar affections now pretty common.

We do not consider that the book meets a want. But it may be useful in its own way for reference, and undoubtedly is trustworthy as far as we have examined it.

A Contribution to the Subject of Nerve-Stretching. By WILLIAM J. MORTON, M.D., New York. 1882.

Nerve-Stretching, Illustrated by Cases from the Hospital Service and Private Practice of Drs CHRISTIAN FENGER and G. W. LEE of Chicago. 1881.

THESE are two very interesting reprints from American journals. The latter contains information in the shape of a number of cases that have been published in Europe and America. A tabulated statement of the cases would make the work valuable as a means of reference.

Dr Morton's paper is a most interesting and ably written account of six cases in which he operated more or less successfully for lateral sclerosis, paralysis agitans, athetosis, chronic transverse myelitis, sciatica, and reflex epilepsy.

In regard to the effects of the operation, Dr Morton gives as the result of his experience—1. That moderate stretching of the nerve produces temporary motor paralysis and considerable paralysis of sensation. 2. That severe stretching produces marked motor paralysis and tolerably complete paralysis of sensation. 3. Cutaneous anæsthesia may be removed. 4. Motor paralysis has been more persistent than sensory as the result of nerve-stretching.

He also noted the appearances of the nerves when cut down upon. In spastic paralysis, athetosis, and reflex epilepsy nothing abnormal was noted. In chronic transverse myelitis the sciatic nerve was "thin and flat like a ribbon, white, and evidently much atrophied." In sciatica there was "tumefaction and reddening of the nerve and tortuous veins." In paralysis agitans the appearance was remarkable, and corresponded exactly, according to Dr Morton, to the description given by Charcot of the condition of the nerves of the tongue and of the arms in a case examined post-mortem by Parkinson in 1817. In external appearance it (the sciatic nerve) was large and round, and of a dirty yellowish-brown colour. To the touch the nerve was hard, firm, stiff, and unyielding, and gave, when stretched, a gritty or creaking sensation.

His conclusion is, "I must confess that from all I have thus far seen I am strongly in favour of the operation."

Address in Surgery: Jubilee Meeting of the British Medical Association, Worcester, 1882. By William Stokes, Ch.M., University of Dublin, F.R.C.S.I., etc., etc. London: J. & A. Churchill.

We have read this address with much satisfaction and approval. The author is evidently a man of open, receptive mind, and at the same time well entitled, by his large practical experience as surgeon to the Richmond Hospital, to express his opinions with confidence. His address, unlike many others on like occasions, is more occupied with precise details and reasonings founded thereon than with exaggerated laudation of our profession and empty declamation. The reader cannot help feeling that the progress of surgery during the last fifty years has been remarkable, and that this is greatly owing to the attention which the three topics, Anæsthetics, Antisepsis, Osteogenesis, have received from the more active minds in the profession.

On the first of these, while bestowing a preference upon ether, Mr Stokes is not unduly dogmatic, and attaches great importance to a careful consideration and recognition in all cases of the ascertained sources of danger; to entrusting the administration of every anæsthetic to persons of judgment and experience; and to a stricter adoption of the rule formulated by Mr Jonathan Hutchinson in reference to the desirability of using chloroform below six and above sixty years of age.

On the subject of antisepsis he is a decided disciple of Mr Lister; indeed, he goes beyond him, it would now appear, in recommending the carbolic spray under almost all circumstances. While believing that the germ theory has caused almost a revolution in the treatment of wounds, even among those surgeons whose time of life, conservative turn of mind, and perhaps indolence, prevent them from acting upon it in a hearty manner, we must confess that we have never been reconciled to the carbolic spray. It seems often to cause local irritation in a healthy wound; it must embarrass the operator in cases where accurate dissection and nice manipulation are required, making him feel as if in a foggy atmosphere; and it cannot be favourable to his mental clearness and equanimity. We have another objection to it. The machine is cumbrous, and cannot be made available in all circumstances—notably in country practice and in sudden emergencies—and it is not desirable that any patients should feel aggrieved by the circumstance that, if deemed important, it should be withheld from them. If Lister and Keith, not to name others, begin to doubt its desirableness, by all means let it be superseded by something simpler and of more general application.

The subject of *osteogenesis* is referred to by Mr Stokes in an interesting manner and at some length, but our space forbids us to enter upon it. We are glad to see that he holds decided views on the question of vivisection, taking the same view as Mr Gamgee in his able work, which we commended a few months ago, *The Influence of Vivisection on Human Surgery.*

Report on Surgery. By W. O. ROBERTS, M.D. Louisville: 1882.

THE reliability of this report may be estimated from the statement on the first page, that "antiseptics cannot be said to occupy any surer ground than they did shortly after their distinguished advocate urged their inestimable value," and "that it is impossible at this moment to say either which is the best agent in use or the best manner of using it."

Perhaps Mr Watson Cheyne's writings have not yet reached Louisville, U.S.A. However, seeing the operations to which Dr Roberts refers in his report are mostly abdominal, it is not to be wondered at, after all, that he should express a doubtful opinion, for it is well known how practice differs among operators in regard to ovariotomy and allied operations, in which all seem to be equally successful beyond their fellows.

Some of Dr Roberts's new operations, as reported, are remarkable; for example, treatment of varicocele by exposing the spermatic veins, arresting the circulation by acupressure, dividing the veins, and then applying a black-hot iron for a few seconds to the cut extremities of the veins. He also reports the method of Mr Duncan of Edinburgh, by antiseptic subcutaneous ligature with carbolized catgut. He does not compare the two, possibly because there is no comparison possible. The latter is a scientific modern procedure, the former a return to the surgery of the dark ages.

Dr Roberts gives a good account of Professor Hamilton's (Aberdeen) sponge-grafting, and Dr M'Ewan's (Glasgow) bone-transplanting experiments.

The Illustrated Quarterly of Medicine and Surgery. Edited by GEORGE H. FOX and FREDERICK B. STURGIS. New York.

WE have received the first three numbers of this journal. While it is both medical and surgical, the greater number of the articles are from surgeons. The principal contributors are Alfred C. Post, Willard Parker, James L. Little, and T. G. Thomas, in the first number.

The illustrations are numerous, well executed, and decidedly useful in enabling one to understand the operations, etc.

Several papers are on plastic operations for the relief of deformities. Many of these operations are most ingenious, though the results are not always perfectly successful. The most remarkable one is an attempt to replace a lost nose by a middle finger, bone and all. The new member, however, while it looked remarkably well, seems to have been rather heavy for its attachments, and had also an unfortunate tendency to grow a nail on the bridge, the point of the finger being upwards, and the prominence of the feature formed by the knuckle of the middle joint of the digit.

Dr A. B. Judson reports three cases of advanced hip-joint disease with sinuses successfully treated by mechanical appliances without operation.

In the third number Dr Charles M'Burney described a new operation for closing urethral fistula, by which a portion of skin with the cuticle on is made to present to the inner surface and fill the gap in the mucous membrane of the urethra. The operation seems to have been very successful.

The new periodical is well worthy a place among the standard journals.

Pyæmia and Septicæmia. By AMBROSE L. RANNEY, M.D., New York. Reprint from *Annals of Anatomy and Surgery*, November 1881.

THIS is an excellent and well-written article, which does credit to Dr Ranney and to American surgeons. It compares very favourably with the article on the same subject in the so-called *International Encyclopædia of Surgery*, also by an American surgeon.

Dr Ranney considers the difference between the two affections to consist mainly in the presence of metastatic or embolic abscesses in pyæmia, and their absence in septicæmia. At the same time he admits the presence of putrefaction, or the products of putrefaction, as being necessary in both cases. We do not, therefore, see the necessity for making such a very great difference between the two pathological conditions as to call them distinct affections, seeing they have the same origin.

The two names no longer bear the meanings originally attributed to them. By most surgeons they are employed to denote simply varieties of blood-poisoning.

Dr Ranney believes that the presence or absence of embolic abscesses is due to the absorption of the septic infection in the former case by the veins, in the latter by the lymphatics. He explains how a minute clot with infective tendency may be carried to the internal organs and there form an embolic abscess. He cannot, however, explain why in the one case the veins, and in the other the lymphatics, are made the means of communication of the infection to the system. May it not be possible that the explanation is that pyæmia, as Dr Ranney understands it, occurs at a somewhat late period in the history of a wound, when it has begun to granulate, and that granulations have no lymphatics, and that therefore the veins are the only available channel of infection?

This paper of Dr Ranney's is worth reading, being highly suggestive. Unfortunately, he has nothing new to suggest in the way of treatment.

Human Morphology: a Treatise on Practical and Applied Anatomy. By HENRY ALBERT REEVES, F.R.C.S. Ed. Vol. I. The Limbs and the Perinæum. With 564 Illustrations. London: Smith, Elder, & Co.: 1882.

MR REEVES, in the preface to this elaborate work, remarks "that this book is to be chiefly used while the student is dissecting;" but we suspect there are few students to be found in this age of competition who would care to give the time necessary to wade through a work consisting of three large octavo volumes of 700 pages each. The illustrations, though numerous, are mostly borrowed, and are of very unequal merit; some being decidedly superfluous, *e.g.*, a view of a female skeleton leaning in *negligé* attitude against an easel, which may be edifying from an artistic point of view, but is hardly calculated to be of much use to the medical student. In the same category may be placed two diagrams of the distribution of the cutaneous nerves and of the hairs! Others of the illustrations are mere pen and ink sketches, often very badly engraved, the outlines of the muscles being faint and blurred, and not standing out clear and distinct as they ought to do in an anatomical diagram. In a "treatise on practical and applied anatomy" one would naturally expect to find a considerable bulk of the book taken up in giving directions for ligaturing arteries, reducing dislocations, etc.; but on turning to the surgical anatomy of the femoral artery, we find half a page devoted to a description of the collateral circulation, but not one word as to the best place for tying the artery, nor as to the dangers and important structures to be avoided in the course of the operation. Again, in speaking of the shoulder-joint, we are told that the upper end of the humerus may be dislocated forwards, downwards, backwards, and "after these dislocations have been reduced, the arm must be fixed to the side," but the author omits to mention how the reduction is brought about. In regard to the hip-joint, dislocation is only incidentally mentioned, and he fails to notice the important function of the Y-shaped ligament in its reduction. In the sections on the perinæum we find the sole direction for performing the delicate operation of passing the catheter on the female is contained in the following sentence:—"In the female the urethra is only about three-quarters of an inch long: a female catheter can easily be passed, and, if necessary, the urethra dilated and the bladder explored." We also fail to find any mention made of that important obstetrical feature, the "perinæal body;" and the vagina is only mentioned as the "uterine inlet and outlet," no idea of its size or shape being given.

These examples, taken at random, may serve to show the plan of the work and the manner in which it is worked out. From its size we think it quite unsuited to the student, though a chapter on "anatomical technics" may prove of use to curators or demonstrators.

The Spinal Nerves. By A. H. P. Leuf, M.D., Brooklyn, N.Y.

This pamphlet, by a demonstrator in Long Island College Hospital, is intended to give the student a comprehensive grasp of the distribution of the spinal nerves. Accompanying it are six charts and a diagram of the distribution of the nerves, the method used being on the same principle as that employed by Professor Flower in his well-known diagrams. The great objection to Dr Leuf's diagram is its unwieldy size (36 × 18 inches), and the inferior manner in which the names of the nerves are printed. The charts are similar to those found in Ellis's demonstrations, but here also they are objectionable on account of their size; *e.g.*, the chart of the branches of the brachial plexus—which in Ellis is printed on a single page—occupies a sheet measuring 28 × 17 inches, and in consequence the eye does not readily take in the arrangement of the various branches. In his account of the brachial plexus we notice that Dr Leuf adheres to the old description of two primary trunks, the upper formed by the fifth, sixth, and seventh cervical nerves, an arrangement seldom found in the body, as in the majority of instances the seventh nerve remains separate, forming a middle trunk. The text of the pamphlet is clearly and concisely written, and is likely to prove the most useful part of the publication.

The Journal of Anatomy and Physiology, Normal and Pathological. October 1882.

This number opens with a paper on "The Lymphatics of the Walls of the larger Bloodvessels and Lymphatics," by George Hoggan, M.B. Edin., and Frances Elizabeth Hoggan, M.D. Zurich, M.K.Q.C.P. Ireland. According to the authors, no lymphatics exist on the inner side of the muscular layer in the arteries or larger veins and lymphatics, but, where the muscular tissue is wanting (as in the smaller vessels), the lymphatics lie close under the endothelium. The vessels begin in a gridiron plexus with few or no valves, and open into efferent trunks which carry the lymph from off the walls, and do not open into the bloodvesels or larger lymphatic trunks from whose walls they rise. They argue, from these and other facts, that the lymphatics must have some other function than acting as drainage adjuncts; this they believe to be the repair of wounds of vessels. They refer to the late Professor Spence's well-known experiments on the ligature of arteries as confirming their hypothesis. Dr A. Ogston of Aberdeen contributes a suggestive paper on "Micrococcus Poisoning," in which he contends that "micrococcus is the cause of all septico-pyæmia, as of all phlegmonous inflammations in man;" that the microccoci grow, not in the blood, but in the tissues, where they elaborate a ferment which, passing into the blood, causes the symptoms of pyæmia.

There are also papers by Dr T. P. A. Stuart on the "Physiological Action of Nickel and Cobalt," and by Dr Hay on the "Action of Saline Cathartics."

The Prevention of Venereal Disease by Legislation. By ALBERT L. GIHON, A.M., M.D., Medical Director, U.S. Navy. Reprinted from the *Sanitarian,* June 1882.

THIS paper, which was read before the New York Medico-Legal Society, is written in rather a sensational style, and we do not think it advisable to draw attention to it beyond quoting a proposed "Act to prevent the spread of contagious diseases" which is printed at the end of the paper, and which we highly approve of and would gladly see adopted in every city and country.

"Article I. That any person . . . . who shall knowingly communicate or be instrumental in communicating, directly or indirectly, any contagious disease, such as small-pox, scarlet fever, or venereal disease, shall be deemed guilty of a misdemeanour, and subject upon conviction . . . . to the punishment of six months' imprisonment. . . . .

"Article II. That if any person, being the owner, agent, or occupant of any house, room, or place within the jurisdiction of this state, shall have reasonable cause to believe any person located permanently or temporarily therein to be affected with a contagious disease, and shall fail to make such fact known to the proper health authorities (or, if there be no such officials, to the nearest magistrate having jurisdiction of misdemeanours), he or she shall be deemed guilty of a misdemeanour, and upon conviction . . . . shall be liable to a penalty not exceeding 500 dollars, or to imprisonment not exceeding six months, or to both.

"Article III. That the State Board of Health, . . . with the approval of the mayor of the city, shall have power to institute and carry out all suitable means to prevent the spread of diseases of a contagious character, and may, if deemed advisable, remove to proper hospitals selected by them all persons suffering from contagious diseases, who, neglecting proper precautions, imperil the health of the community."

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LXII.—MEETING II.

Wednesday, 6th November 1882.—Dr G. W. BALFOUR, *President, in the Chair.*

I. PUBLICATION OF THE TRANSACTIONS.

Mr Joseph Bell drew attention to the fact that they had omitted to intimate, in the volume recently published, that it was the commencement of a new series. Several volumes of Transactions had been published before, and some of the older members thought that this fact should not be ignored. It would be well to bring it out in their next edition.

Dr Craig said that at the time he wrote the preface he was not aware of the existence of these volumes. It came to his knowledge afterwards. The preface was, however, literally true, for the Society had previously printed only occasional volumes, and had not presented a copy to each member. He had just received a loan of one of these earlier volumes, and found that the papers alone were given. Of the members who appeared in it but three were now alive, Dr Renton, Dr Combe, and Mr William Brown. He agreed that the volume should have been entitled the first of a new series.

II. EXHIBITION OF PATHOLOGICAL SPECIMEN.

The President showed for Dr Watson Campbell of Duns two PEYER'S GLANDS, connected by a longish stringy patch of mucous membrane, passed per anum by a child, female, æt. 18 months, suffering from whooping-cough and supposed typhoid fever. The patient had since died. The specimens were very rare.

A suggestion was made to refer them to a Pathological Committee; but as there was no standing committee of that nature, it was agreed simply to accept them.

III. Original Communication.

Dr W. T. Black gave his communication entitled MEDICAL NOTES ON THE BRITISH EXPEDITION TO EGYPT IN 1801, WITH DIAGRAM OF CLIMATE, AND STATISTICS.

The President said that the paper was not one that lent itself to discussion, but they were much obliged to Dr Black. For himself, the most interesting part was the political, which went to show that the Grand Old Man, instead of—as supposed—adopting the policy of brag initiated by Lord Beaconsfield, had really adopted and followed out with success a policy suggested eighty years ago, and which had the imprimatur of so distinguished an army surgeon as the late Sir James M'Grigor.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XLII.—MEETING I.

Wednesday, 8th November 1882.—Professor Simpson, *President, in the Chair.*

I. *The President* delivered his INTRODUCTORY ADDRESS, which appears at page 619 of this Journal.

Dr Craig proposed a vote of thanks to the President for this address, which commemorated in a worthy manner the work of those Fellows whose loss the Society has recently had to deplore. This able and interesting address formed an auspicious commencement for the winter's work of the Society.

II. *Dr Halliday Croom* read his REPORT OF THE ROYAL MATERNITY AND SIMPSON MEMORIAL HOSPITAL for the quarter ending October 1882, which will appear in a future number of this Journal.

Dr Moir remarked that it was fortunate that the operation for ruptured perinæum was now so much more successful than it used to be when he commenced practice above fifty years ago, seeing that that accident was now so much more frequent than at that time. The operation for ruptured perinæum in those days was not attempted till some time after delivery, and was almost always unsuccessful. Hence, perhaps, one cause for the dread of its occurrence. It was one against which the then Professor Dr J. Hamilton most urgently warned his students; and Dr Moir assured the members that during the whole of his professional life he had not in his own practice met with as many cases requiring operation as had occurred in the reported cases during the last quarter in the Maternity. The practice of supporting the perinæum carefully, even for hours, was one calling for much time and patience, but, if carefully practised, was most effectual. Even in forceps cases the perinæum will not necessarily be ruptured if the case be not hurried and the perinæum be properly supported. In such cases Dr Moir stated that he had frequently kept the head back by the forceps till it could be extracted safely and without injury to the mother. As to his experience with regard to the induction of premature labour, his invariable practice was to dilate the cervix with the finger daily until labour set in; he never ruptured the membranes or turned unless there was some special indication for this. He could say that during the last twenty years he had never lost a child. In one case of a severe forceps delivery with the first child he had induced premature labour successfully on four subsequent occasions.

Dr Wilson thought that rupture of the perinæum seemed rarer formerly because it was not always looked for.

Dr Croom explained that of the three degrees of rupture (slight and affecting fourchette only, partial of perinæum, complete and into rectum), those of the second degree were stitched up as a matter of routine, and were not referred to in the report.

Dr Peter Young asked whether rupture had been observed to be more frequent in occipito-posterior cases.

Dr Carmichael wished to know whether there was any modification of the antiseptic treatment in the Maternity.

Dr Croom replied that the same regulations were enforced as he had brought under the Society's notice in a former paper.

The President drew attention to Neil Macleod's paper, in which he showed the advantage of frequent vaginal injections—two or three times daily. The lochia from cases treated in this way, when injected into rabbits, proved less irritating.

Part Fourth.

PERISCOPE.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

RESORCINE, AND ITS EMPLOYMENT IN THERAPEUTICS.—MM. Dujardine, Beaumetz, and Callias have made an extended study of this substance and its uses in the *Bull. Gén. de Thérapeutique.* This substance was discovered by two Viennese chemists, Hlassiwettz and Barth, in 1860, among the products of fusion obtained by treating galbanum with potash; later on it was obtained from gum ammoniac and assafœtida. Resorcine is very soluble in water, has a feeble odour somewhat resembling that of carbolic and benzoic, a one per cent. solution acting as an antiferment, and a one and one-half per cent. solution as an antiputrid. The authors are of opinion that this antiseptic, on account of its extreme solubility, its very feeble odour, its toxic effects being slight as compared with carbolic acid, it being also much less caustic, should be preferred to this in surgical practice.—*Therapeutic Gazette; Medical and Surgical Reporter*, 1st April 1882.

THE KOLA, OR GOUROU NUT.—These seeds, called also Ombéné nuts, are the produce of *Sterculia acuminata*, belonging to the Natural Order Sterculiaceæ, and are known to us by the accounts of West African travellers, who state that when chewed or sucked they possess the power of rendering the flavour of water, even if half putrid, agreeable, and they were believed to contain caffeine. They have recently been made the subject of analysis by MM. Ed. Fleckel and Fr. Schlagdenhauffen, who have found that they do actually contain more caffein than the best samples of coffee that could be procured, and that this base is altogether free and uncombined—not, therefore, as in the coffee-berry, united with an organic base; secondly, that they contain a very appreciable quantity of theobromine, which assists the action of caffeine, and possesses similar properties to that base; thirdly, which is an important fact, that they contain a considerable quantity of glucose, of which cacao presents no trace; fourthly, that the quantity of starch present is three times greater than that contained in theobroma, which explains its nutritive value; fifthly, that there is but little fat, in which respect it differs notably from cacao; and lastly, that they contain a special form of tannin, which approximates caffeo-tannic acid in its composition, and a red colouring matter very similar to that named by Payen cacao-red. The physiological examination of this substance has shown that its properties are essentially due to the caffeine and theobromine it contains. The seeds, it appears, have long been in use in Soudan and Western Africa for the relief or cure of diseases of the intestine or liver, and especially in cases of atony of the digestive tract, and also as a masticatory and tonic, like the areca nuts which are held in such high esteem by the natives of India. Medically they may come to occupy a prominent place by the side of coca and other anti-metabolic remedies, to which they would probably prove superior in consequence of the tannin they contain.—*The Lancet*, April 1882; *The Therapeutic Gazette.*

VIOLA TRICOLOR IN ECZEMA.—Dr H. G. Piffard (*Medical Record*, 29th April 1882) is inclined to believe that viola tricolor is a specific in eczema, in the same sense that quinine is a specific for ague. He uses fluid extract,—the dose being, in adults, from five to ten minims in acute eczema, and from half a drachm to two drachms in subacute and chronic eczema. The drug should be taken in water once, twice, or thrice a day, always on an empty stomach, and, when possible, half an hour before meals.—*Chicago Med. Review*, May, 1882; *The Therapeutic Gazette.*

SULPHO-CARBOLATE OF SODIUM IN VOMITING.—The use of the sulpho-carbolate of sodium in flatulent dyspepsia is well known.

It is not, perhaps, so generally known as a remedy for the vomiting of pregnancy. I have used it in this affection for several years, and find it rarely fails to give some relief. In some cases the benefit is extremely marked. I give it in doses of seven grains in half an ounce of water. Though sometimes decidedly useful in the vomiting of displaced or other abnormal conditions of the uterus, it is less uniformly so than in pregnancy, probably because flatulence is a less constant factor in the former cases. Where deep nerve disturbance exists we must trust to more powerful remedies, hypodermic morphia or atropine, or surgical procedures. The drug will perhaps be useful against sea-sickness, taken every two hours from the time of sailing. In one case—the only one tried—it appeared to have a good effect.—Philip Miall, *The British Medical Journal*, 16th December 1882.

PEPPERMINT OIL IN HERPES ZOSTER.—Dr J. Meredith of Birmingham, England, finds peppermint oil applied locally to be capable of rapidly allaying the pain of herpes zoster.—*New Remedies*, October 1882.

QUEBRACHO IN DYSPNŒA.—The use of this drug at the New York Hospital in a large number of cases demonstrates anew its remarkable value in dyspnœa. It has been employed in that institution in a large number of cases, and patients, after experiencing the great relief its use affords, ask for it again. It is called by them "the breathing medicine." Dyspnœa from almost any cause seems to be benefited by it. Further researches will probably demonstrate the rationale of its action. *Aspidosperma Quebracho* is a tall tree, with a perfectly straight trunk from two to three feet in thickness, with a moderately large oval crown and sparse foliage, the extreme twigs being very fine and pendant, as in the willow. The bark of the tree is employed in medicine. Quebracho belongs to the genus Aspidosperma originated by Martino and Zuccarina; Natural Order, Apocyneæ. Attention was attracted to it principally by the comments of Schikendanz. It was investigated by Dr F. Penzoldt to determine its therapeutic action, and by G. Fraude to ascertain its chemical composition. The investigations of the latter resulted in the discovery of an alkaloid which seems theoretically related to the cinchona alkaloids, while the former researches brought about a knowledge of the wonderful efficacy of the remedy in dyspnœa, though the praise awarded to it for its ante-febrile properties was not found justified. The unexpected action of quebracho bark at once elevated it to the rank of valuable remedies.—*Therapeutic Gazette*, September 1882.

MENTHOL AND BROMIDE OF ETHYL IN NEURALGIA.—Dr F. E. Stewart recommends a mixture composed of equal parts by weight of menthol and bromide of ethyl as an outward application for neuralgia, toothache, headache, in the treatment of which he has found it very useful. At his recommendation, menthol has been used in Charity, Blackwell's Island, New York, and in a report from that institution, referring to it as a remedy for headache, we notice the expression, "It is a godsend." Menthol is not soluble in water. Alcohol, however, dissolves it. Bromide of ethyl is a perfect solvent for the drug, and possessing powerful anæsthetic properties, the combination is of double value. On evaporation of the ethyl bromide, which is very volatile, the menthol is left distributed over the spot in the form of an impalpable powder, which slowly evaporates, producing a most cooling, delightful sensation and tranquillizing effect.—*The Therapeutic Gazette*, September 1882.

PERISCOPE OF OTOLOGY.

By Dr KIRK DUNCANSON, Surgeon to the Ear Dispensary, 6 Cambridge Street; Assistant-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

A CASE OF ABSCESS OF THE CEREBELLUM FOLLOWING OTITIS MEDIA, MONTHS AFTER APPARENT CURE, by Dr A. Mathewson of Brooklyn, N.Y.—The case was one of chronic suppurative inflammation of the middle ear, with mastoiditis, in a child of eleven years, apparently perfectly and permanently cured for months, when, after indiscretion in diet, vomiting occurred and other symptoms, which seemed at first due to gastric and hepatic disorders. After two weeks, during which there were no marked or certain symptoms of brain complication, the child died in convulsions, and an autopsy revealed abscess of the cerebellum. There was pus between the dura and tegmen tympani, but the bone was not carious. The ear and mastoid seemed healthy. The discussion of this paper was especially on the necessity of ophthalmoscopic examination in cases of suppurative otitis, and the value of optic neuritis for diagnosis and prognosis.

A CASE OF ACUTE MIDDLE-EAR INFLAMMATION, WITH DEATH ON THE FOURTH DAY FROM EXTENSION OF THE DISEASE TO THE BRAIN, by Dr C. S. Merrill of Albany, N.Y.—Patient complained of a sense of fulness in the right ear and impaired hearing. The membrana tympani was somewhat congested, but otherwise normal. The hearing distance for the watch was in the right ear 2½ in., in the left ear 7 ft. Politzer's inflation was followed by improvement of hearing to 4 inches. Advised application of leech to tragus and mastoid. The following day the patient was entirely relieved. On the next day he returned to his work, contrary to the advice of the physician, and subsequently was seized with severe pains. Was again seen by Dr Merrill the following day. There was then severe meningitis, pulse 160, temperature 103° F., respiration 28; patient delirious most of the time. The membrana tympani was bulging and greatly inflamed. Free incision of the membrana tympani gave issue to a large quantity of pus. On inflation by means of the catheter the Eustachian tubes were found patent. Local inflammation subsided, but meningeal inflammation increased and coma supervened. Death occurred on the fourth day after appearance of the ear symptoms. The autopsy showed pus over the region of the petrous bone, extending from the tympanic cavity through two or three small openings in the tegmen tympani. The propriety of inflation in cases of acute and subacute inflammation of the middle ear, and the probable efficacy of rigorous general treatment, were the most interesting points of discussion in this paper.

AURAL POLYPUS, FACIAL PARALYSIS, MASTOIDITIS, AND CHRONIC MENINGITIS, WITH RECOVERY FROM THE TWO LATTER, by Dr Read J. M'Kay of Wilmington, Del.—When first seen by Dr M'Kay, the patient had suffered eight years from otorrhœa from the left ear, the result of a blow on the ear. A large polypus was found, which was removed by Blake's snare, and the stump was touched with solution of nitrate of silver, two drachms to the ounce. Instillation of a solution of sulphate of zinc and carbolic acid were continued for some time, but this treatment failed to entirely remove the granulations. The patient ceased his visits, but five months after was seen again, having been treated in the interval for "gastric fever" by his family physician. He has had left facial paralysis and continued pain in the left ear and left side of the head since last seen, which were now somewhat relieved by local applications of warm water and a 40-grain solution of nitrate of silver. Some weeks later he again turned up at the suggestion of another family physician who had been attending him for "malarial neuralgia" and had given him quinine freely. Ophthalmoscopic examination showed well-marked optic neuritis left and congestion of optic disc right. Leeches were applied with great relief, and minute doses of calomel given till slight ptyalism appeared. Then a gradual improvement followed, pain and swelling disappeared, vision improved, and the optic neuritis subsided; facial paralysis and otorrhœa, however, persist, and the granulation is not entirely removed. Dr Knapp, in reference to the above cases, observed that since Dr Kipp drew attention to the occurrence of optic neuritis dependent upon suppurative otitis he had ophthalmoscopically examined every case of severe otitis purulenta media that had come under his observation. He found that this combined occurrence was quite rare; but in some cases it was very marked and important, as in acute cases of suppuration with internal mastoiditis. It is found more pronounced in the eye of the same side than in the other. After the opening of the mastoid the retrogression of the optic neuritis went *pari passu* with the progress of the recovery from the ear disease. He related a case in illustration, of which he said, when the mastoid was opened, and a large quantity of pus evacuated, a place at the cranial side was found soft on probing. Dr Mathewson said that in nearly all of the cases of abscess of the brain which he had seen there was acute, intense pain. This pain was a general pain of the head, and not limited, as in cases of mastoid disease, and he had come to look upon this symptom as almost pathognomonic. Sometimes it appeared only shortly before death. The pain was continuous and of a tearing nature. One doubt in regard to his case given above was due in part to absence of any such pain.—*Transactions of the American Otological Society, Fifteenth Annual Meeting*, Vol. III., Part 1, July 25, 1882; and *The American Journal of Otology*, Vol. IV., No. 4.

SCARLET FEVER, OTITIS, AND FACIAL PARALYSIS.—Dr Ashby showed a girl, aged seven years, suffering from Bell's paralysis, which had supervened on the eighth day of an attack of scarlet fever. The fever was high, and the throat trouble very severe. On the day the paralysis was noticed, a discharge of pus took place from the ear. At first the paralysis was almost complete, involving the left side of the face; the uvula pointed away from the tongue slightly towards the paralyzed side. At the present time (three months from the commencement of the attack) the paralysis had improved under the use of the constant current; but there was still a perforation through the membrana tympani, and a slight discharge. Dr Ashby also showed the petrous portion of the temporal bone of a child aged two years, who had died with pyæmic abscesses in the lungs on the twenty-eighth day of scarlet fever, the result of suppuration in the tympanum and phlebitis of the lateral sinus.—*British Medical Journal*, 25th Nov. 1882, p. 1042.

PERISCOPE OF SYPHILOLOGY.

By FRANCIS CADELL, F.R.C.S. Ed.

THE VACCINE DISASTER AT ALGIERS.—In the *Times*, 9th November 1882, in a letter from Mr William Tibb to the editor, the following account of the disaster, furnished by Dr Desjardins of Algiers to *La Science Libre*, is quoted:—"On December 30, 1880, the young soldiers of the garrison of Algiers who had not already been vaccinated were conducted to the Dey Hospital to be vaccinated, in accordance with the sanitary regulations. Two army surgeons operated. The vaccine matter was extracted from a couple of children under two months old, apparently in excellent health, and in whom the lymph appeared to be equally genuine and normal. Those vaccinated from one of the children presented no special incident, but the fifty-eight soldiers vaccinated from the Spanish infant developed in a few weeks the characteristics of an infection which could not be mistaken—all were attacked with syphilis. The marks on the arm were disquieting, and the ulcerations were so threatening that the soldiers were, some ten weeks after the operation, sent to hospital. In a month all except six were dismissed, but they were soon compelled to return; syphilis had affected their constitution. Some had ulcers for four or five months; one had not recovered in the eighth month; others had affections of the lips, tongue, or palate. Some showed discoloration of the skin, some had violent headache. Affections of the teeth and gums and of the joints presented themselves to my observation, in addition to the usual symptoms of this dangerous and disgusting malady. I also noticed decay of the hair, eyebrows, and lashes." [There is no doubt that syphilis can be inoculated during vaccination, and authentic accounts like the above give a reasonable basis for the anti-vaccination crusade. The only way to take the ground from under the feet of anti-vaccinators is to make the practice of *animal* vaccination more easily available.]

STATE REGULATION OF PROSTITUTION—ANSWER TO EVIDENCE IN ITS FAVOUR.—The following communication by Dr R. H. Thomas, in the *Maryland Medical Journal*, 15th July 1882, is in answer to a letter from Professor Rohé, in the same journal (15th June), in support of state regulation of prostitution. The only fresh evidence brought forward by Professor Rohé is a letter, said to be from a woman who, at the time of writing, was a brothel-keeper in St Louis. This letter, which was written to one of the city officials during the agitation for repeal of the regulations, strongly supported the system, on the ground that it aided in the work of reclaiming prostitutes and lessened the extent of the social evil. The letter is unsigned, and the whole is a thoroughly irresponsible statement of one anxious to retain the badge of semi-respectability put by the law on her calling. She assumes that numbers of loose women and men have been made moral by the law, because they do not come to the brothels. The less frequent visitation of the licensed houses is seen wherever the Acts are in force, and upon the Continent this fact is looked upon with sorrow by the supporters of the system. Long experience has taught them that people can be incontinent elsewhere than in brothels. Where the regulations are in force the women avoid official inspection and enforced confinement as much as possible, and so a class of so-called clandestine prostitutes arises—that is, those who escape registration, and who are absolutely cut off from medical treatment for fear of the police. Is it inconsistent to urge that this renders them an increased menace to the public health? In the discussion on the state regulation of prostitution in the section on State Medicine at the late International Medical Congress in London, out of the eighteen speeches and addresses, eleven condemned the regulations. Of the remaining seven, hardly any seemed satisfied with the practical working of the Acts, nor yet agreed on the remedy. Professor Rohé, in his letter, when speaking of the supposed unfairness of examining and often punishing the women, but letting the men go free, maintains there is no unfairness in so doing, because his dictionary tells him that "prostitution is the common lewdness of a woman for gain." As this does not apply to men, *ergo*, they should not be examined. A better refutation of this argument could not be found than in the preceding clause of his own letter, in which he defends the official surveillance of the women on the only possible ground—that of their danger to public health, and quotes Mill: "As soon as any part of a person's conduct affects prejudicially the interests of others, society has jurisdiction over it; and the question whether the general welfare will or will not be promoted by interfering with it becomes open to discussion." If it be admitted that the condition laid down by Mill—"affecting prejudicially the interests of others"—is fully met by the prostitute, in what way is it not as fully met by the man? Dr Thomas fails to comprehend how the exchange of money alters the danger of the two classes to the public health.

PERISCOPE OF STATE MEDICINE.

By James Allan Gray, M.D. Edin., F.R.C.P.E.

On the Fever of "Wheat Meters."—Dr Maurans describes an ailment which attacks those in charge of the measuring of foreign wheat. At Marseilles this work is done in the docks. There the meter (measurer) stands from morning till evening bending over the measure and adjusting the quantity of its contents. The manipulation of the wheat sets free a fine and impalpable powder, which diffuses itself in the air. The workers who live surrounded by this atmosphere are subject to fevers presenting all the symptoms of malarial attacks. It appears, also, that the meters, from the kind of wheat which they are weighing, are able to predict whether or not they will have an attack in the evening. Five meters, interrogated separately, gave the following details:—It is generally an hour or two after the completion of work that the fever shows itself. The patient feels a sensation of cold, which may go on even to shivering. This cold stage lasts from ten minutes to half an hour, and gives place to a hot stage, which constitutes the second period of the ailment; then, at the end of about half an hour, the sweating stage arrives, during which the patient becomes a little easier. The feeling of well-being then increases. An abundant diuresis takes place, and the ailment is finished. Most usually the patient is able to resume work the next day. The meters, knowing that the ailment is easily cured, are content to take a decoction of white onions, of which they drink to satiety.—*Semaine Médicale*, quoted in *Annales De Hygiène*, March 1882, p. 297.

ELIMINATION OF LEAD.—The generally accepted view that the administration of iodide of potassium favours the elimination of lead from the system receives support from a case recently published by Dr Swete of the Worcester General Infirmary. A painter was admitted to the infirmary on 9th February 1880. He had been suffering from constant attacks of colic, and had the characteristic blue line on the gums, and some weakness of the hands, but he had no wrist-drop or wasting of the muscles. He was immediately placed on five-grain doses of iodide of potassium every four hours, and this dose was gradually increased to ten grains during the subsequent ten days. On admission, and before treatment, the urine contained no lead. On the 10th February the urine amounted to 1011 cubic centimetres (about 35½ oz.), and contained 5 milligrammes of lead (about $\frac{1}{13}$ grain). On the 13th the urine passed was 1022 cubic centimetres (about 35¾ oz.), and 12 milligrammes of lead ($\frac{2}{11}$ grain) were extracted therefrom. The lead gradually increased in quantity until on the 25th, when 22 milligrammes (about ⅓ grain) were passed. It thereafter declined, until in about a fortnight the urine contained but a mere trace of lead, and the colic had entirely gone. In commenting on the case, Dr Swete calls attention to the increase of the symptoms after the first few doses of iodide of potassium, a repoisoning due to the liberation of the lead from its combination with the albumen of the tissues, and he suggests that the potassium iodide in the body may "act by forming a double salt of iodide of lead and potassium, which is soluble in water or in iodide of potassium to a considerable extent compared with the iodide of lead." The next well-marked case of lead-poisoning which comes under his notice Dr Swete purposes treating by the administration of sulphate of ammonia, a salt which he has found to be quickly eliminated, without change, by the kidneys. He hopes that, as in laboratory experiments, the first action of this will be the separation and precipitation of the lead as sulphate, which thereafter will become dissolved in the remainder of the sulphate of ammonia.—*British Medical Journal,* vol ii. p. 1034.

POISONING BY CHLORIDE OF BARIUM.—Dr Courtin of Bordeaux records a case of the above. The patient, a lady aged 45 years, took by mistake, on the 25th February, a quantity of chloride of barium dissolved in warm soup. The poison was taken at 7 a.m., and in mistake for sulphate of magnesia. The dose was approximately 6 grammes (about 93 grains). The acrid and disagreeable taste of the chloride of barium very quickly told the patient of her error, and she accordingly called in a neighbouring apothecary, who gave her an emetic of ipecacuanha. When Dr Courtin first saw the patient, an hour and a half after the occurrence of the accident, he found her sitting vomiting bilious matters, complaining of cramps and of very great abdominal pain. The skin of the face and hands was pale and cold. The patient made an attempt to reach her bed, but was unable; she screamed out, informing those around her that she had lost the sensation in her feet, and that she had very painful cramps in her lower extremities. Dr Courtin administered at once a saturated solution of sulphate of magnesia, attempting thereby to precipitate all the baryta in the state of sulphate, and destroy the essential conditions of its absorption. To this solution was added some liquid albumen. Meanwhile the cramps in the lower limbs increased, and these were followed by vomiting and diarrhœa. The patient was unable to go to bed unaided; she had to be carried thither. The coldness of the body became general, and the patient complained a great deal. The external application of a mixture of equal parts of oil and liquid ammonia was now energetically made, until the skin became very red, and under the influence of this treatment warmth returned, and the patient was left with instructions that the rubbing should be continued and that stimulating alcoholic drinks should be given. In the evening the patient still felt pain in the calves of the legs and feet; the warmth had continued, and reaction had happily set in; the vomiting and diarrhœa had not ceased. On the morning of the 26th it was found that the patient had slept several hours during the night, and that there was no more vomiting or diarrhœa, but that there were still cramps, limited to the lower limbs. On the 27th the patient was in perfect health and eating well. On the 10th March the patient felt very sharp pain at the anus on going to the closet, and it was found that she had been very much confined in bowels since the accident. Several emollient injections succeeded in relieving this condition, which lasted scarcely two or three days. Dr Courtin calls attention to three important physiological facts in this case, namely, the vomiting and diarrhœa; the general coldness and cramp, limited to the lower limbs; and the constipation, which lasted about ten days, and which brought on the pain of which the patient complained so much. Baryta exercises a very powerful irritant action on the tissues, a fact which explains the continuance of the vomiting and diarrhœa for 24 hours, in spite of the excessive doses of sulphate of magnesia, to which the patient was subjected. The early vomiting was no doubt due to the ipecacuanha; but when the rapid elimination of that drug is remembered, it cannot be held that the continued emesis was due to its action. The symptoms of cold and the cramps have been observed in physiological experiments, especially in the remarkable experiments made on animals by Brodie and Orfila, establishing in a very evident way the action of chloride of barium on the nervous centres, and especially on the spinal cord. In conclusion, Dr Courtin asks if the constipation happening after the accident is not due to atony of the intestines induced by the same cause, and this the more likely, as the patient had not been previously so affected.—*Journal de Pharmacie*, Oct. 1882, p. 270.

ÆTHUSA CYNAPIUM.—M. Tanret, in a communication to the *Société de Pharmacie*, records the results of his researches on the lesser hemlock, or fool's parsley (*Æthusa cynapium*). In it he had found neither alkaloid, nor glucoside, nor any other body to which one could attribute the reputed toxic action to this plant. Physiological experiment gave only negative results. M. Tanret thus confirms the results previously obtained by Harley, and recorded in the *St Thomas's Hospital Reports* for 1873. Poisonings laid to the charge of the lesser hemlock should thus, according to M. Tanret, be attributed to the true hemlock, from which *Æthusa cynapium* differs less than from parsley or chervil, with which latter the author cautions that it be not confounded. Another fact which M. Tanret has observed in the chemical examination of the lesser hemlock is that the malic acid so abundant in the roots is in great part replaced by fumaric acid in the parts of the plant above ground. Plant growth thus produces on malic acid the same effect as heat.—*Journal de Pharmacie*, Oct. 1882, p. 325.

POISONING BY ACONITE.—Mr F. G. Baker reports five non-fatal cases of poisoning by aconite root, which were treated simultaneously at the Poplar Hospital for Accidents in August 1882. Four of the patients were lads whose ages varied from fourteen to eighteen; the fifth was a girl. All had chewed aconite root, and swallowed the saliva along with small fragments of the root itself. In the case of the boys the general symptoms were great tingling and numbness of the mouth, tongue, and throat, abdominal pain and nausea, occurring in from a few minutes to a quarter of an hour after chewing the aconite. The pain increased shortly, vomiting occurred in two of the cases, and all four began to feel heavy, giddy, and sleepy. About an hour and a half after the poison was taken, the boys were made to walk to the hospital, a distance of a mile. When first seen, the pallor, the confusion and indistinctness of speech, and the great dilatation of the pupils, were the most marked symptoms. "The boy whose general condition appeared considerably worse than that of the others, immediately after entering the surgery, sat down and expressed himself as being too weak to stand. His face was cold and blanched, the pupils widely dilated, the pulse quiet, small, and regular, and the breathing spasmodic. He spoke slowly and with apparent difficulty; he complained of intense numbness and pricking in the mouth, tongue, lips, and throat, singing in both ears, great gastric pain, nausea, and a feeling as if he would choke, also of tingling and darting pains from the soles of his feet up to his knees. These latter pains became worse at frequent intervals, and there was great muscular weakness of both legs. Both feet felt very cold and were blanched; Pressure over the pharynx, œsophagus, and stomach aggravated the pain. The other three male patients and the girl complained more or less of similar symptoms, but in a less severe form; besides which, one had great difficulty in raising his left shoulder, and said his left forearm felt as if 'dead.' Another had darting and pricking pains from his feet up to the middle of the thighs. The pulse was weak and quickened, but regular, in all. The two boys who were unaffected by pains in the feet and legs complained of great coldness of their feet. Very little, if any, dyspnœa, dimness of vision, or delirium existed." The treatment consisted of placing the patients in bed, applying warmth externally, giving emetics of sulphate of zinc and ipecacuanha, and later of administering coffee and brandy, with a purgative in one of the cases where the bowels had not acted spontaneously. The patients were kept awake until the sleepiness passed of. On the following day the others had almost entirely recovered, but the boy whose condition was worse at first made only a slow recovery, suffering much from frontal headache for several days. In his remarks Mr Baker calls attention to the early advent of the symptoms, both local and general, and to the great dilatation of the pupils, as well as to the absence of any marked dyspnœa, which latter condition, like contraction of the pupils, has been present in many of the cases hitherto recorded.—*British Medical Journal*, 1882, vol. ii. p. 1039.

POISONING BY CYANIDE OF POTASSIUM—DETECTION OF THE POISON IN THE BODY FOUR MONTHS AFTER DEATH.—Dr Zillner reports the following case:—A man aged 44 years, and very much intoxicated, disappeared on the 24th October, and was found on the 12th February following, enclosed in a small compartment, 1 metre square by 0·70 metre in height (39½ inches square, and 27½ inches high). During that time the temperature had varied from 8° to 10° C. (from 46°·4 F. to 50° F.) At the autopsy a small quantity of brownish liquid was found in the stomach. Along the greater curvature the wall was here and there swollen and raised into folds. In the spaces between these folds the mucous membrane was dry, was of a dirty red-brown colour, and easily raised. A piece of liver 40 grammes (somewhat less than an ounce and a half) in weight was cut into small portions, mixed with a small quantity of dilute sulphuric acid, and submitted to distillation. The distillate, when analyzed by Prof. Ludwig, gave Prussian blue with the usual reagents, and furnished equally well the reaction of hydrocyanic acid with bisulphide of ammonium. Zillner recalls, in connexion with this subject, cases where the cyanide of potassium has been found a long time after death. Reunard detected it 15 days, Sokoloff 22 days, Dragendorff 4 weeks, and Lwow 100 days after death. He relates, also, the experiment of Struve, who set aside in a vessel 300 grammes of meat (about 20 ounces), 400 cubic centimetres (about 14 ounces) of water, and 2·378 grammes (about 36 grains) of cyanide of potassium, and was able to recover this salt at the end of eighteen months. In the above case related by Zillner, as the body had lain during almost four months under conditions altogether peculiar, putrefication had assumed a special character, approaching almost to that of mummification. A minute description is given of the modifications which the organs and tissues had undergone.—*Vierteljahresschrift für gericht Medicin*, quoted in the *Annales de Hygiène* for June 1882, p. 571.

POISONING OF A CHILD BY CREASOTE.—Dr Anatole Manouvriez reports a case of poisoning by this substance in an illegitimate child 11 days old. In the history given it is stated that the infant was in good health up to the time when it was left in the keeping of a little girl, who at the suggestion of the mother was absent for a short time, and on returning found her charge suffocating. The neighbours were called in, and on entering the apartment were struck by the peculiar odour perceptible there, as was also the nurse when she returned half an hour later. When first seen by the nurse the child was pale, held its mouth half open, and appeared to be choking. Near to the mouth she noticed some white spots analogous to burns. The poor child cried, making violent efforts to breathe, and attempting to cough; from time to time it emitted hoarse smothered cries, as if suffering from cramp. Fluids could not be taken; they were rejected by the nose. The portions of clothing near to the mouth were stained by a liquid of a strong smell analogous in its character to that which pervaded the apartment. A medical man who was called in noticed that the lips were burnt, and that they smelt of creasote. The patient died after eleven hours of suffering. In the last moments only was it able to swallow a draught of tisane. Dr Manouvriez, at the request of the court, made a post-mortem examination 60 hours after death. "The child was a male and well formed. The mouth was half open. Large brownish-yellow parchmented scars were found on the lips, right angle of the mouth, the cheek, the chin, and even on the neck on the right side. These were specially noticeable on the cheek, as beginning at the labial commissure. The distribution of the scars indicated that they resulted from the action of a liquid caustic, which, thrown into the mouth, had run off in part by the right side upon the cheek, chin, and neck, and on the clothes adjacent. The chemise and braces were impregnated with a dried liquid, the odour of which was manifestly that of creasote. A small portion of the cheek detached at the side of the scar, and preserved in a flask, exhaled some days later a very appreciable odour of creasote. The nails had a dark violet colour, as in death by asphyxia. The tongue, which was dry, rough, and gray-brown, especially at the tip, was swollen throughout, even to its root, in such a way as to obstruct the entrance to the throat. The mucous membrane of the palatine arch and of the rest of the mouth was brownish-gray; the mucous membrane of the pharynx, œsophagus, larynx, and trachea was gray. A grayish frothy liquid was found in the trachea and bronchi. The lungs, especially the left, were filled with dark blood, and showed some intervesicular emphysema. There was bloody serum in the pleuræ and peritoneum.

Dark blood, somewhat coagulated, filled the cardiac cavities. The softened stomach tore in the hands, and allowed the escape of the liquid which partly filled it, and in which was found some clotted milk. This liquid had not the odour of creasote." Dr Manouvriez therefore concludes that the child had evidently died from the introduction into its mouth of mineral creasote, a caustic liquid, which, by corrosion and by the œdema of the tongue, mouth, and throat had caused slow asphyxia without the occurrence of those toxicological effects which would have resulted from its absorption. In regard to the mode in which the poisoning had been brought about, the mother at first denied any interference, but later alleged that she had given the child for its colic a teaspoonful of liquid from a bottle which she obtained in her master's house, and which she believed to contain laudanum. She states that a part of the teaspoonful so given was immediately rejected. This bottle was proved, by the evidence of the master and of the chemist who supplied the contents, to have contained mineral creasote, which, as is known, is a mixture of phenol and cresylic acid. The mother of the child knew that this liquid was a poison, but the charge against her nevertheless resulted in an acquittal.—*Annales de Hygiène*, February 1882, p. 175.

Part Fifth.

MEDICAL NEWS.

Royal College of Physicians, Edinburgh. —The following gentlemen passed their final examination for the qualification in Medicine at the sittings in November and December, and were admitted L.R.C.P. Ed.:—William Pooley, Rochdale; Robert Brookes, London; Benjamin Hugh Lane, London; Robert Howard Nicholson, Sheffield; Jno. William Jackson, York; James Rowland Payne, Burton-on-Trent; Arthur James Mackenzie Armstrong, Bedford; Hugh Morgan Davidson, London; John Waldron, Wallingford, Berks; James Arthur Unitt, Walsall; Robert Wyndham Winstanley, Haslemere, Surrey; Herbert Canton, London; Walter Spencer, London; Henry Lyttleton Holt, London; James John Conway Donnet, Dover; Thomas Sumthorpe Fitzmaurice, Brigg, Lincolnshire; Hugh Kershaw, Brighouse, Yorkshire; Edward Anstis Bewes, London; Arthur Bowe, Shipley, Yorkshire; John Hamilton, Hamilton; Fred. George Larkin, London; John Delahunt, Loughrea, Co. Galway.

Medico-Chirurgical Society of Edinburgh.—The following gentlemen have been elected office-bearers of this Society for the Session 1882-83:—*President*, Dr G. W. Balfour; *Vice-Presidents*, Mr Joseph Bell, Professor Fraser, and Dr David Wilson; *Councillors*, Dr Ziegler, Dr Garland, Dr Thatcher, Dr Lucas, Dr P. Heron Watson, Dr Byrom Bramwell, Dr Buist, and Dr Ronaldson; *Treasurer*, Mr A. G. Miller, 11 Walker Street; *Secretaries*, Dr MacGillivray, 11 Rutland Street, and Dr James, 11 Albyn Place.

MOREHEAD MEMORIAL FUND.—A committee has been formed in Bombay for the purpose of raising funds to endow a scholarship or exhibition in the Bombay University in memory of the late Dr Morehead, C.I.E., whose eminent services as the first Principal of Grant Medical College—whose researches on Indian diseases—and whose successful labours in the cause of medical education in Western India, are universally acknowledged. At the request of the Bombay committee, Dr Giraud (Shanklin, I.W.), or the undersigned, will receive and acknowledge subscriptions and forward them to Bombay.—W. C. COLES, M.D., Burton-on-the-Water, Gloucestershire.

DR ROBERT NEWMAN of New York has sent us a copy of a paper by him, reprinted from the *New England Medical Monthly*, September 1882, on "Stricture of the Rectum treated by Electrolysis." He reports four cases. Two were syphilitic; one refused to be operated upon; one died apparently from the stricture; in one case the report is that after the first application of the battery for twelve minutes "absorption of some of the fibrous mass" was observed. We might extend *some* amount of credence to such a statement were it not that the author says in his first paragraph that "hundreds of cases" have occurred in his own practice (while he only quotes four, and one of these not operated on). Stricture of the rectum is a rare affection, at least in this country; and consequently such a statement makes us very cautious of how we trust the author's facts.

INTERNATIONAL COLONIAL AND EXPORT TRADE EXHIBITION, AMSTERDAM, MAY—OCTOBER 1883.

Programme of the Section for Colonial Medicine.

AT the invitation of the Dutch Association for the Advancement of Medical Science, the Executive Committee of the Colonial Exhibition have resolved to add a section for colonial medicine, to be opened simultaneously with the Colonial Exhibition. Whereas it is the object of the Colonial Exhibition to diffuse general knowledge of colonies and transoceanic possessions, the aim of this medical section is a more limited one, and of a strictly scientific character, viz., to promote our knowledge of the sanitary and medical conditions in the colonies. It will be divided into three classes.

The first class will embrace everything relative to the public health in the colonies and transoceanic possessions:—Sanitary commissions, their organization and labours, regulations and reports. Supply and testing of water for drinking purposes. Models of artesia wells, aqueducts, reservoirs, ice fabrics. Distilling apparatus, filters, etc. Regulations against the adulteration of food. Testing of foods. Adulterated foods. Rules and regulations on the sale of opium, haschiz, alcoholic and other intoxicating drinks. Intoxicating drinks made and used by natives. Bathing and sanitary establishments. Schools, dwellings for the labouring classes, barracks, prisons, etc., from a hygienic point of view. Sanitary control. Burial-grounds and cremation. Sewerage, sewers, cesspools, tubs, etc. Trades, professions, and cultures detrimental to health; communications in regard to the diseases caused thereby; sanitary control; means of improvement. Measures against endemic, epidemic, and contagious diseases. Measures against diseases caused by marshes, even when drained, by inundations, etc., in connexion with the origin of malaria, bilious and yellow fever, cholera, dysentery, etc. Measures for the prevention of parasitical diseases. (The committee particularly desires the contribution of objects relative to parasitical diseases proper to the colonies.) Rules and regulations on prostitution, and measures for preventing the spread of venereal diseases. Rules and regulations on vaccination. Establishments for animal vaccination. Models, plans, and drawings of establishments for quarantine (buildings, vessels, barges, etc.) Regulations for the prevention of epizootic diseases (rinderpest, etc.); objects relative to these diseases. Death-rates. Diagrams of mortality in colonies, if possible with indication of the sources whence the returns have been compiled, and of the method followed in grouping them.

The second class is of equally practical importance. It will be devoted to all data connected with the organization of the medical service in the colonies, in regard to which the several colonial governments follow different systems, and it is only by a careful study of them that a correct judgment can be formed as to the best system to be adopted:—Direction and Administration of the Civil and Military Medical Service. Laws and regulations relative to the qualifications for the practice of medicine, surgery, midwifery, pharmacy, and veterinary surgery. Laws and regulations relative to the Military Medical Service. Rules and regulations on the practice of medicine, pharmacy, and veterinary surgery by Chinese and other native practitioners. The distribution of physicians, surgeons, midwives, apothecaries, and veterinary surgeons in the colonies. Special medical education of colonial doctors in the mother-country. Medical schools in the colonies (education of Doctors-Djawa, district-doctors, etc.); regulations; buildings; text-books and other auxiliary means of education (anatomical preparations of tropical and exotic diseases, etc.) Schools for midwives; regulations; buildings; text-books; educational accessories. The instruction of vaccinators; regulations; text-books.

The third class will have for its scope the attendance to the sick and wounded, and their transport, and also their treatment by the natives:—Models, plans, and drawings of civil and military hospitals, lying-in hospitals, lunatic asylums, leprosies, ambulances, in the colonies, etc. Objects used in nursing the sick, and derived from the colonies. Means of transport of sick and wounded; *by land:* preliminary assistance, ambulance-carriages, brancards; *by water:* hospital and transport ships and boats. Medical literature printed and published in the colonies (periodicals, pamphlets, treatises, and other medical publications.) The medical treatment and hygienic customs (circumcision, etc.) of the natives. Instruments, contrivances belonging thereto. The drugs of the natives, if possible with a correct description of their origin and application. Medical literature of the natives. Chinese apothecary's shop. Means used by natives (antidotes and medical treatment) in cases of poisoning and poisoned wounds, bites of poisonous or injurious animals, as snakes, spiders, centipedes, scorpions, musquitos, etc.; contact of toads, bats, etc.; stings of some fishes; wounds from poisoned arrows, etc.) It is requested to send the native poisons themselves, with a correct description of their effect according to the appreciation of the natives, adding also the animals or insects, arrow-poisons, etc. Treatment of the chica (pulex penetrans) by the natives. Obstetrical help, and treatment of mother and child during and after the confinement, as practised by the natives; instruments, etc.

The objects intended for the Medical Section will be received up to the 1st April 1883, and the packages should be marked, "Exhibition of Amsterdam.—Section: Colonial Medicine." It is intended to hold an International Congress for Colonial Medicine during the Exhibition in September 1883. The programme will be published hereafter.

MANSLAUGHTER.

Francis Carton was indicted for the manslaughter of William Jamison at Limavady on the 26th August.

The prisoner, who had been on bail, surrendered to his recognizances, and pleaded not guilty.

Dr Boyd, Q.C., and Mr David M. Ross (instructed by Mr Thomas Fitzgerald, Crown Solicitor) prosecuted on behalf of the Crown, and Mr Walter E. Long (instructed by Mr Wm. Harper) appeared for the defence.

Dr Lane was examined by Dr Boyd, and stated that on the evening of the 26th August he was sitting on the window-sill of his own house in Limavady in company with Wm. Jamison, when the prisoner came up and spoke to them. Jamison and the prisoner began to "chaff" each other, and then began to "spar." Witness first saw Jamison strike Carton in the mouth. The prisoner then struck Jamison on the lower part of the face, knocking him down. His head struck against the water-table, and he was rendered insensible. They brought him into the surgery, and witness, thinking his head was a little to one side, gave it a pull. He died at four o'clock the next morning, from concussion of the brain, caused by the fall.

Cross-examined by Mr Long.—One thing seems to be pretty certain, that the man did not die until you gave his head the pull. (Laughter.) Well, he was as good as dead at the time, but the breath was not out of him. (Laughter.) He could not get over it, anyhow.

His Lordship.—Do you mean he could not have got over the pull? (Laughter.)

Witness.—Oh, no; I mean the fall he got.

Mr Long.—At all events you gave his head the pull, and he died afterwards? That had nothing to do with it. It is not the first time I pulled a man's neck and he got over it. (Laughter.)

Oh, then, you have pulled other men's necks in the same way? Yes, often. (Laughter.)

But the majority of them died, didn't they? No, they lived. (Laughter.)

Are you a good judge of boxing? Well, I think I might be.

Have you attended any boxes in your time? Oh, many a time. (Laughter.)

Have you ever any boxing yourself? Certainly I have. (Laughter.)

Then you know the strength of a blow that would knock down a man, don't you? Well, now, it all depends on where you hit him. (Laughter.) If you know how to hit him in a certain place, you will soon put him down.

Was the blow that knocked down Jamison given in the correct place—the place you would select yourself if you wanted to knock a man down? Well, that is a question I would not care to answer.

Was it a very strong blow? Yes, it was straight from the shoulder, not an overhand blow, you know. (Laughter.)

Did you see the position of Jamison's feet when he was struck? I did not pay attention to his feet.

Now, I know I am talking to an expert, and I want to ask you, did you ever before see a man fall from such a blow? I did; and I will give you instances if you like. (Laughter.)

His Lordship.—That will not be necessary.

Dr Lane further stated that Jamison and the prisoner appeared to be on the best of terms until they began to "chaff" each other. The prisoner was a man of good character.

William Gault, who witnessed the occurrence, stated that before the fight commenced he heard the prisoner say, "Now, Jamison, this is two or three times this evening you have tried to raise arguments between Dr Lane and myself, and if you do it again I will——" He did not hear the conclusion of the sentence. During the fight he heard the prisoner say, "Now, Jamison, draw your knife," to which Jamison said "I will draw no knife."

Sub-Constable Daniel M'Ilwee deposed to arresting the prisoner, who was concealed in a hayloft adjoining his own house.

This closed the case for the Crown.

Mr Long addressed the jury for the defence, urging that Jamison was the aggressor on the occasion, and that the prisoner was only defending himself when the deceased met with the injuries which caused his death.

His Lordship, in charging the jury, said, although it was by no means an aggravated one, an offence had been committed which the law held to be manslaughter.

The jury retired, and after an absence of half an hour returned into court and handed the issue-paper to the Clerk of the Crown.

Mr M'Cormick.—Gentlemen, have you agreed to your verdict?

The Foreman (Mr Bernard Donnelly, Smithfield).—No; there is not the slightest chance of our agreeing. (Laughter.)

His Lordship asked what was the cause of their disagreement.

The Foreman said they had evidence that the deceased was knocked down by a blow, and that the doctor afterwards pulled the man's neck. (Laughter.) There was no inquest held, and they had no evidence as to whether death resulted from the blow or from the pull the doctor gave the man. (Laughter.)

His Lordship said the case was the plainest he had ever investigated, and the jury should have no hesitation in returning a verdict. At the same time, there was a good deal in what the foreman said. It was most irregular that there should not have been a coroner's inquest in the case.

Dr Boyd.—As a matter of fact, there was an inquest, but no *post-mortem.*

His Lordship said there should have been a *post-mortem* in such a case. He again directed the jury to retire and consider their verdict.

Dr Boyd said the constable in charge of the case informed him that he asked the coroner to order a *post-mortem*, but that the request was refused. The coroner stated that the County Derry Grand Jury would not present for a doctor's fee. (Laughter.)

His Lordship said he did not blame those who had charge of the case at all.

At six o'clock the jury again came into court and announced that they could not agree.

His Lordship told them to retire again. He would give them some time to consider his directions as to the verdict they should return on the evidence placed before them.

The jury was then committed to the charge of seven sworn constables, and the Court adjourned until nine P.M.

His Lordship re-entered the court at nine o'clock.

The jury having been called out,

The Foreman said that they could not agree to a verdict, and added that there was no probability of their agreeing.

The jury was then discharged, and the Court adjourned until this morning, at half-past ten o'clock.

OBITUARY.

THE LATE PROFESSOR PIRRIE.

In our last number we recorded the death of Dr Pirrie, Professor of Surgery in the University of Aberdeen. As Dr Pirrie held that position for the long period of forty-two years, and has been a teacher in the University for over half a century, his death is an event which must interest a large number of former students of Aberdeen, now scattered over the world, and at the same time creates a blank in the profession in Aberdeen, Dr Pirrie having long held the leading position as a practitioner in Aberdeen and in the district around. Dr Pirrie's life has been not only a long one, but one of great and constant activity. William Pirrie was born in 1807, in the parish of Gartly, near Huntly, Aberdeenshire, where his father was a well-to-do farmer. He received his education at the parish school of Gartly, the Aberdeen Grammar School, and at Marischal College, Aberdeen. Pirrie began his medical studies in Marischal College; but the Aberdeen school being at that time small and far from complete, he finished his studies in Edinburgh, where he became L.R.C.S. in 1828 and M.D. in 1829. His attention was more particularly directed to surgery and anatomy. There is reason to believe that this bent was given by the teaching of Liston in surgery and Knox in anatomy. Liston was his ideal as a surgeon, and Dr Pirrie was never tired of referring to the operating of his great master in terms of very warm admiration. After the removal of Liston to London their personal friendship continued, and Dr Pirrie used to relate incidents illustrating the character and humour of that great surgeon. From Knox, as well as from Liston, Pirrie learned to appreciate the value of anatomy to surgery, but it was to Knox that he owed the appreciation which he showed in after life of the advantage of anatomy being taught scientifically as well as from the surgical point of view. He had many reminiscences of Knox, as all had who attended the crowded lecture-room of that remarkable man, whose wide knowledge of comparative anatomy, wonderful command of appropriate language, and unrestrained satirical powers, rendered his teaching one of the great attractions of the Edinburgh school of that day. Pirrie afterwards studied for a time in Paris, where his taste for surgery was further developed.

Returning to Aberdeen, Dr Pirrie became Lecturer on Anatomy and Physiology in Marischal College. In this position he is remembered as a tall and handsome young man, speaking the words of a more advanced science than had been before known in the school. He continued as teacher of anatomy and physiology for nine years, engaging at the same time in practice. Chairs of anatomy and surgery did not as yet exist in Aberdeen. Previous to this time Dr Ewing had been Lecturer on Surgery in Marischal College. These chairs were founded by the Government in 1839, and Dr Pirrie was appointed to the Chair of Surgery, Dr Allen Thomson, then Lecturer on Anatomy and Physiology in Edinburgh, being at the same time appointed to the Chair of Anatomy.

From this time on to within a few months of his death, a period of forty-two years, Dr Pirrie continued to discharge with activity and efficiency, and with much acceptance, the duties of the Chair of Surgery. On the union of King's College and Marischal College by the Scottish Universities Act of 1859, the Chair which Dr Pirrie held became the Chair of Surgery in the united University of Aberdeen. Dr Kerr, who had been the Lecturer on Surgery in the medical school attached to King's College, now retired from systematic teaching, continuing his duties as surgeon to the Royal Infirmary along with Dr Pirrie and Dr Keith. Dr Pirrie was appointed one of the surgeons to the Infirmary in 1847, and continued to discharge that duty till 1880, when he resigned the acting surgeoncy, and remained connected with the hospital as consulting surgeon. Many former students of Aberdeen must recollect the appearance of these three surgeons—Keith, Kerr, and Pirrie—in the operating theatre, each with his peculiarities and special merits, rivals, but friendly and courteous, all excellent surgeons, whose united labours, extending over many years, gave and maintained for the Aberdeen school of surgery a high character. Along with them, in the physicians' department, will be recalled the name and figure of Dr Kilgour, a man of massive intellect and large common-sense, who long and deservedly reigned as consulting physician in Aberdeen and the north of Scotland.

Though very busily occupied with his University and hospital duties and with the cares of a large practice, Dr Pirrie contributed from time to time to the literature of surgery. His *Principles and Practice of Surgery*, a large and well-illustrated work, appearing first a quarter of a century ago, at once took rank as a favourite text-book in surgery, and has gone through three editions, the last appearing in 1873. In 1867, jointly with Dr Keith, Dr Pirrie published a volume on *Acupressure*, reproducing in an enlarged form his papers on that subject which appeared in the *Medical Times and Gazette* in 1865. This method of arresting hæmorrhage was extensively practised by Drs Pirrie and Keith over a number of years in the Aberdeen Infirmary, and the work referred to is a valuable record of that experience, accompanied with descriptions and illustrations of the various methods. Among his various minor contributions may be mentioned "A Remarkable Case of Strangulation caused by a Diverticulum" (*Edin. Monthly Journal of Med. Science,* 1849); "Carbolic Acid in the First and Second Degrees of Burns" (*Lancet,* 1867); "Fracture of Cranium, with large Wound of Brain" (*Lancet,* 1879); and the address on "The Infectiveness of Tubercle," which he delivered only in July last as

President of the North of Scotland Medical Association. This address, the substance of which appeared in *The Lancet* of August 5th, 1882, was remarkable, not for originality, at which it did not aim, but as an instance of Dr Pirrie's grasp of a wide subject, and his powers of oratory without manuscript. It was Dr Pirrie's last public appearance, and for a man of 75 years of age, just recovered from a severe illness, the delivery of that address, occupying nearly an hour, with faultless flow of language and emphasis,was a surprise, even to those who were aware of Dr Pirrie's powers in that direction, and led to the entertainment of the hope that he might still be spared to continue his professorial duties.

Among the honours conferred on Dr Pirrie were his appointment six years ago, as Surgeon in Scotland to H.R.H. the Prince of Wales, and his receiving the honorary degree of LL.D. from the University of Edinburgh in 1875, on the occasion of the meeting of the British Medical Association in Edinburgh, an honour which he esteemed highly as coming from his *Alma Mater.*

As a teacher Dr Pirrie was unremitting in his exertions. He was fond of it, which made him enthusiastic, and, with a natural flow of language, was never at a loss to express himself. His familiarity with anatomy was a power to him both in the operating theatre and in the lecture-room. He aimed at demonstrating everything objectively, especially in his later period, when the demonstrative method of teaching became more appreciated in the school and was superseding the old verbal method. He formed for the University a large collection of surgical instruments, ancient and modern. The museum which he first formed was, unfortunately, destroyed by fire, but he began again, and has formed for the University an interesting collection of specimens of surgical pathology and a large collection of surgical drawings. His lectures were attractive, and latterly, as the school increased, were attended by a large class of attentive listeners, to whom he managed to communicate the enthusiasm which he himself felt. Dr Pirrie's activities and powers as a lecturer did not decrease with his advancing years,but seemed rather to grow. It was indeed quite a phenomenon to see a man over the proverbial threescore and ten holding forth to a crowd of young men with all the vigour and liveliness of youth.

In everything concerning the progress of the Aberdeen school Dr Pirrie took a warm and active interest. When the union of the two colleges made it possible for Aberdeen University to become an important school of medicine, much had to be done for the development of the teaching arrangements, and, working in close alliance with his attached anatomical colleague Dr Struthers, Dr Pirrie had that object at heart, and in his latter years regarded with great satisfaction the success of the school and the success of the students whom it sends forth. He also took an interest in the movement for the establishment of medical bursaries in the University, and rendered valuable service in the completion of the movement for the foundation of a chair of Pathological Anatomy, which the University is now happy in possessing through the munificence of Sir Erasmus Wilson. By his long and active and valuable services Dr Pirrie is, therefore, well entitled to be regarded as one of the fathers of the Aberdeen School of Medicine.

Dr Pirrie, as we have said, had a large private practice. The surgical practice of the district, latterly so largely in his hands, he formerly divided, in their lifetime, with Drs Keith and Kerr. But, besides this, Dr Pirrie was extensively engaged in general practice. To his intimate friends Dr Pirrie expressed the dissatisfaction which he latterly felt in occupying this position, especially after the recent growth of the medical school. He could justify it only by going back to the state of matters when he began half a century ago, when the distinctive position of the pure surgeon or of the consulting physician were unknown in the north of Scotland, Aberdeen not the large and wealthy city which it now is, the district around comparatively undeveloped and without the modern railway, and the medical school small and essentially local, embracing few beyond the apprentices of medical practitioners in and around Aberdeen. Dr Pirrie's own feeling was that, had he been beginning as Professor in the later times of the school, he would have made a point of confining himself to surgery proper. For the time which his general practice consumed Dr Pirrie made up as far as possible by his extraordinary activity and the economical use of his time. Going early to bed, he was up in the morning, winter and summer, by five or six o'clock. By the time his neighbours were getting up to breakfast, Dr Pirrie had already accomplished several hours' writing in his study, or might be met at the railway station, already returning from a visit to some important case in the country. His lecture at the University was at ten o'clock; the hospital visit, with his share of the clinical course, was at 12 o'clock; he was at home for consultation from 2 to 3; in to dinner at 5 o'clock; and again out to his practice till about 9 o'clock, when he might generally be found in his study, ready to advise in matters affecting the school. With the difference that he had no lectures in summer, the above was Dr Pirrie's constant round from day to day and year to year, allowing himself generally little or no autumn holiday, and seldom, if ever, touching alcohol in any form. Having, with his large practice, been long in easy circumstances, all this amount of exertion was voluntary, but Dr Pirrie liked it. What the love of solitary scientific research is to some, the love of seeing patients was to Dr Pirrie. Besides all his professional merits, he had naturally the *savoir faire* with patients, who were generally much attached to him, as he was to them, so that those who had once consulted him seldom left him for another. Dr Pirrie's practice was thus a gradually increasing one, and, after the death of Drs Keith, Kerr, and Kilgour, became so enormous that everybody wondered how he managed to attend to it in addition to his

University duties. The latter, however, always had the first claim on his attention. We have no doubt that for years back Dr Pirrie's retaining his chair and hospital connexion was a money loss to him; but, in accordance with the tradition and spirit of the Scotch professor, in contrast with the usual practice in London, Dr Pirrie would on no account have resigned his teaching position for the gains of practice as long as he felt able for the efficient discharge of his duties as a teacher.

Dr Pirrie may be said to have been a self-made man. Though in circumstances to be able to pursue further studies before beginning to teach, he was a stranger in Aberdeen, and had his own way to push there. A man with a large head as well as a large frame and a good presence, he possessed natural ability, was industrious and active throughout his whole life, and gave himself up to his profession. He took naturally to teaching, at first in a position somewhat analogous to that of the extra-mural lecturer in Edinburgh, and this no doubt tended to develop him, while it afforded the ladder by which he rose to his professorship. Dr Pirrie stood out in more than one respect among his brethren in Aberdeen. The inspiration he had received from the teaching of Liston, Knox, and other men of fame in the Edinburgh school of that day, and in Paris, gave him higher notions of teaching and of style than had yet existed in the then undeveloped school of the Granite City, and in his earlier years made him the mark of local criticism, and perhaps of envy; and in his later period, after the death of nearly all his old contemporaries, he stood alone, among the younger generation, as the representative of the past. But while there was that about him which could be understood only by going back to the past, Dr Pirrie was far from being the *laudator temporis acti.* On the contrary, maintaining personal relations with eminent surgeons in other schools, and a diligent reader of what was new in his profession, Dr Pirrie was nervously anxious to keep up with the improvements of the day. Reared among the proverbial attributes of the locality, he was a very wary man in all things. It was not easy to get Dr Pirrie to admit in words that the patient could not recover. He had stories to tell of less cautious brethren whose condemned patients had recovered and were still alive, and had never forgiven their doctors for the verdict. Along with seriousness of manner Dr Pirrie had humour, and no one could laugh more heartily than he in private, after some battle fought for the progress of the school, at the discomfiture of the proverbial attributes by fertility of resource in the better cause. Ever anxious to stand well in the opinion of others, and to avoid offence in the terms he used, he had yet not a few battles of progress to fight, and in the struggle between these two objects it was not seldom entertaining to see the straits in which he was placed. Not a man of party, he may be said to have stood very much alone, even in the University, with latterly a few exceptions, but, with the training of a self-made man, he was able to hold his own, stood to his object, and generally gained it.

Near the end of last winter session Dr Pirrie was laid aside from duty by a sharp seizure of pain in the region of the liver, arising, apparently, from perihepatitis. He was confined to bed for some weeks, and on more than one day during this time his life was despaired of. He suffered severe pain, but his tendency to weakness of the heart's action was the chief source of anxiety. His otherwise robust constitution, however, enabled him to rally, under the care of his son, Dr Gordon Pirrie, with Dr Beveridge in consultation. He was able to resume practice during the summer months, took his part as usual in the examinations for the degree in July, and in the same month delivered the address above alluded to, when to all appearance he was in his wonted health. By the advice of his family, however, he was induced to resign the Chair of Surgery in August, the resignation coming as a surprise even to intimate friends. In the autumn months he was actively engaged in practice. In October, in consequence of a chill, he was again laid off duty, and now some prostatic symptoms arose, going on to suppuration about the prostate, under which he gradually sank, and died on November 21st. The estimation in which Dr Pirrie was held in Aberdeen received a remarkable illustration at the funeral. In accordance with an old custom in Aberdeen, which was still observed in his case, the funeral took place from the college where he had taught. It was attended by the Lord Provost, magistrates, and town council, the Medico-Chirurgical Society, and various public bodies, as well as by the authorities and students of the University, and the streets along which the long procession passed were lined by a dense mass of the inhabitants, of all ranks and ages. The whole of Aberdeen seemed to have come out to pay this last mark of respect, and no such funeral gathering, it is said, had ever before been seen in Aberdeen. Dr Pirrie had practised in the place for over half a century, and there are probably few persons in Aberdeen to whom he was not familiarly known, either as medical adviser or friend.

Although abstaining generally from taking part in public and political affairs, Dr Pirrie took a warm interest in benevolent and religious movements. In particular, he contributed substantially to the establishment of the institution known as the Young Men's Christian Institute. Reared in the old Scotch theology, he kept by its formulæ and observances. Long adhering to the Established Church, he a few years ago joined the Free Church, in which he served as an elder, but he took no part in theological or ecclesiastical discussions.

Dr Pirrie is survived by a widow, four sons, and three daughters. Two of his sons are members of the medical profession, Dr William Pirrie of Bournemouth, and Dr Gordon Pirrie of Aberdeen, who succeeds to his father's practice. Two members of the profession also are sons-in-law of Dr Pirrie, Dr Gibbon of Aberdeen, and Dr Heath Strange of London. Dr Pirrie's name will be long remembered in connexion with the Aberdeen school of medicine, and locally as a leading member of the medical profession in Aberdeen and the north of Scotland. His death marks an era in the history of the profession in Aberdeen, as the departure of the last of that band of seniors, above referred to, who long headed the profession there; and among our professors of surgery, Dr Pirrie's death, following that of Syme and Miller and Spence, marks the fall of the last of those seniors who in recent times have long and ably and honourably filled chairs of surgery in Scotland.

GEORGE GULLIVER, F.R.S.

MR GULLIVER, who died on the 17th of November last, was born at Banbury, in Oxfordshire, in the year 1804. On removal from school he was apprenticed to Messrs Jones and Wise, surgeons in extensive practice in Banbury. During that time he devoted his mind zealously to self-culture, and contrived to acquire a competent knowledge of chemistry, botany, and other branches of natural history.

His apprenticeship ended, he entered at St Bartholomew's Hospital, where he was dresser to Mr (afterwards Sir William) Lawrence, and attended the usual course of lectures and hospital practice. Mr Abernethy and Mr Stanley then lectured on anatomy, and Mr Wormald and Mr Skey were the demonstrators. Mr Gulliver had there for some years charge of the anatomical museum, and made dissections for Abernethy's lectures. He was asked by Mr Abernethy if he would like to serve as Mr Clift's assistant at the Hunterian Museum. On his declining to do so the post was accepted by Mr (now Professor) Owen, a contemporary and fellow-student. Besides Mr Owen, many other eminent men studied at or about the same time at St Bartholomew's—amongst others, Sir George Burrows, Sir Thomas Watson, Dr Wise, Mr Kiernan, and Dr Jonathan Pereira. Considerably before this time Sir Robert Christison was a student there, and somewhat later, Sir James Paget. Mr Gulliver did not only attend the lectures at his own hospital, but also those of that eminent Scotchman Charles Bell, and those of Grainger and Joshua Brooks, both private teachers at that time. In 1826 he became a member of the Royal College of Surgeons, and entered the army in 1827 as assistant-surgeon, retiring from the service in 1853. The greater part of his service was spent in the Royal Horse Guards, after he had previously been assistant-surgeon to the 71st Highland Light Infantry, and, for three years, staff assistant-surgeon. During his tenure of the latter office he had charge of the museum at Fort

Pitt, to which collection he made many additions, some of which may now be seen at Netley. Subsequently he had likewise charge of the surgical division at Fort Pitt. Dr John Davy was then principal medical officer, and there and then commenced a lifelong friendship between that eminent man and Mr Gulliver. With the 71st regiment Mr Gulliver was quartered at Edinburgh, where he became acquainted with Liston, Syme, and Knox, the latter then in the zenith of his fame. At the same time Alison, Abercromby, John Thomson, and Christison were flourishing, and Craigie was editing with great learning and skill the old *Edinburgh Medical and Surgical Journal.*

Mr Gulliver was elected a Fellow of the Royal Society in 1838, and a Fellow of the Royal College of Surgeons under their new charter in 1843; in 1852 he was elected a member of the council of the same college, in the affairs of which he took great interest, serving on the museum and library committees. In 1861 he was elected Hunterian Professor of Comparative Anatomy and Physiology, and in 1863 delivered the Hunterian oration.

For some years past he had lived in retirement at Canterbury, suffering much from inveterate gout, certain of the complications of which disorder proved fatal on the 17th of November last, in the 79th year of his age.

His original researches and observations were numerous, but for the most part scattered throughout many and various journals and publications. Amongst the more important of them were his investigations concerning the blood, lymph, and chyle of the vertebrata, embodied in his edition of the works of Hewson published by the Sydenham Society; and in his lectures delivered at the College of Surgeons, and published in the *Medical Times and Gazette,* during the years 1862 and 1863; and also in the Proceedings of the Zoological Society and elsewhere.

He established the essential difference between the red corpuscles of mammalia and those of other vertebrata, and made most elaborate and extensive measurements of the corpuscles throughout the vertebrate sub-kingdom. These measurements and observations, besides their medico-legal importance, proved to have great taxonomic value. To put aside some of the larger results,—such as the essential difference of the corpuscle in mammalia and oviparous vertebrates, the uniformly large size of the corpuscles in the amphibia, and their very uniform size in the group of birds, which in other respects also presents so few variations,—it may be instanced that the corpuscles were found to be exceedingly small amongst the ruminants, but large in the rodents. In most groups, again, the size of the corpuscle was found to vary with that of the animal; thus, in the former of the two orders just mentioned, the tragulidæ have the smallest, and the larger ruminants the largest corpuscles. Mr Gulliver made, besides, many important experiments on the coagulation of the blood and on the formation of the "buffy coat." He was, moreover, the first to point out the essential difference between the softening of fibrin and suppuration, in opposition to the views of John Hunter, who looked upon the process as suppurative in its nature. With regard to the chyle, it was he who first recognised the nature of and named the now well-known "molecular base," which observation has assumed additional importance in medical diagnosis since chyluria has been recognised as a disease. Some of the earliest observations on atheroma and fatty degeneration of arteries were his, and he clearly understood the important relation of these changes to dilatation and rupture of vessels. Under this heading it may also be stated that he was one of the first to employ digital pressure, and successfully, in the treatment of aneurism. He made many experiments on the repair of fractures of bone, and demonstrated the conditions under which union took place by bone, and those under which it took place by fibrous tissue only. He also made many experimental observations to disprove, what was then a prevalent hypothesis, the absorption of necrosed bone. On these and kindred subjects, such as the pathological changes in articular cartilages, many of his papers appeared in the *Edinburgh Medical and Surgical Journal.* He always insisted that the taxonomic value of histological characters, both in animals and plants, was undervalued and capable of vast extension. To his views on this point his papers on the taxonomic significance of the muscular fibre in the œsophageal sheath of vertebrates gave remarkable support. The general absence of a coating of striped muscular fibre in the œsophagus of the sauropsida was pointed out; whilst, amongst mammalia, it was shown not only to exist amongst the ruminants (as had been before assumed), but also amongst the rodents, bears, and many others; whilst in man, quadrumana, and many other mammalia, striped muscular fibre extends only a short way down the œsophagus. In this respect the aye-aye, whose position in the animal kingdom had been much disputed, was found to agree entirely with the quadrumana, and to differ entirely from the rodentia, to which some supposed it to be closely allied. "It is noteworthy that whilst the sauropsida are thus distinguished by the absence of striped muscular fibre on the sheath of the œsophagus, they are, on the other hand, equally distinguished by the presence of this fibre within the eye." This remark of Mr Gulliver's is at any rate eminently suggestive of what might be done by further diligent and careful investigation in the same direction. His observations on plants tended still further to confirm these views. The pollen and tissue cells were shown by him to have in some cases considerable classificatory value, but this was shown above all to be the case with regard to those peculiar crystals termed "raphides," the characters of which, as distinguished from those of other plant-crystals, Mr Gulliver was the first to insist on. "Thus, for example, in the flora, Balsaminaceæ can be at once surely known from the other orders of Thalamifloræ, or Agraceæ from the other orders of Calycifloræ, and Rubiaceæ from the other orders of Corollifloræ; while, on the other hand, an order, Hydrocharidaceæ, *e.g.*, may be as certainly distinguished by the want of raphides which abound in its allied orders." Again, the hydrangeas had by some been placed in the same order with the saxifrages. Some doubted the correctness of this arrangement, and Prof. Lindley placed them in a separate order, Hydrangaceæ. The latter view was much supported by Mr Gulliver's observations when he showed that the hydrangeas abound in raphides, which are entirely absent from the saxifrages.

The above is a brief and incomplete summary of some of the more important points substantiated by a life of laborious research; and surely they are no mean results, pointing as they do to the value of work done, not in the support of some hypothesis, but with a view to arriving at definite facts, and seeing afterwards what construction they might bear.

It may be added that Mr Gulliver always deeply resented the systematic neglect of the observations of many of our most illustrious physiologists, which very observations, when reproduced on the Continent, were received in this country with most profound respect and admiration. As instances, he would bring forward Hewson's discovery of the functions of the lymphatic glands, since claimed by foreign observers; the discovery of Waller and Addison of the passage of the white corpuscles through the coats of bloodvessels, the value of which was unrecognised till Cohnheim many years afterwards reproduced it, giving to the process the name of "diapœdesis"; and, lastly, the persistent depreciation of the illustrious John Goodsir, a just but too tardy estimate of whose relations with Virchow and others was given in the *Edinburgh Medical Journal* for 1873. Lastly, it should be mentioned that Mr Gulliver, besides his scientific pursuits, had a most excellent knowledge of literature and of ecclesiastical architecture, and most excellent taste in art. He had, indeed, what is called "an eye for a picture;" his judgment might be relied upon. His powers of conversation were remarkable, and he was always willing to communicate his knowledge, even to children. His style in composition was admirable, formed by an intimate acquaintance with the best English classics. Of this his Hunterian Oration is an example. His calm and sober judgment kept all his observations strictly within the range of facts. He never wandered into the bewildering region of speculation, and entertained a profound reverence for the Almighty, both in His works and Word.

He always spoke of the seven years that he was quartered in Scotland as a green spot in his existence. He wonderfully enjoyed the style of genial intercourse which then prevailed, and recollections of angling by her waters, both then and at a later period, on the property of his friend the late Lord Henry Bentinck, seemed a fountain of continual pleasure.

Sir James Paget writes to Mr Gulliver's son as follows:—

"I am indeed very sorry to hear of your father's death. It is true that he has lived to a good old age, and has left records of work which will live in honour long after him; but the loss of men such as he was can never be other than a cause of regret, even to those who had not for many years had the pleasure of seeing him."

With the following extract from a letter to his widow from his ever valued friend Dr C. J. B. Williams, this somewhat lengthened notice must conclude:—"With much sorrow I have seen the announcement of your dear husband's death. As a friend of between thirty and forty years' standing, I need not assure you how deeply I sympathize with you in your bereavement. You know how intimately we were associated in our pursuits, and also in the bonds of mutual esteem. Greatly was I indebted to him for the valuable aid which his researches gave to me in my works, researches more original and fruitful than any I could obtain elsewhere, and which supplied knowledge which then, and even to the present day, has thrown light on some of the most important departments of medical science. How much I shall miss the hearty friendliness and congenial intercourse of his visits, full of warmth and interest!"

JOHN RUTHERFOORD TURNBULL, L.R.C.P. AND S. EDIN.

WE regret to have to announce the premature and somewhat sudden death of this physician, which took place at his residence, Castle Terrace, on Thursday, 21st December, at the age of forty-four years. Dr Rutherfoord Turnbull was a native of Roxburghshire, and received the Licentiateship of the Royal Colleges of Physicians and Surgeons in 1861, and has since practised his profession in this city. For nearly twenty years he has held the appointment of one of the physicians to St Cuthbert's parish; and during the last epidemic of smallpox in Edinburgh he held the responsible appointment of physician to the smallpox hospital. The duties of both these offices he discharged to the entire satisfaction of all concerned.

He was most devoted in his attention to the poor, many of whom he attended without fee; and it is believed that in the discharge of these duties he exhausted his strength, and was unable to bear up under the disease which so suddenly ended fatally.

We understand that he was attending his patients on Sunday, 18th ult., and on Monday he was seized with inflammation of the lungs. He was attended by Dr Allan Jamieson and Dr G. W. Balfour, but, despite their united skill, he gradually sank, and died at an early hour on Thursday morning. He leaves a widow to mourn his untimely end.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*The Legal and Medical Theories of Mental Disease in Criminal Cases.* By F. DODD, Barrister-at-Law, Liverpool.

OF the many interesting and important problems connected with medical jurisprudence, there are none equal in interest, difficulty, or importance with that which has recently excited so much and such hot discussion: How far shall the partially insane or mentally diseased be held responsible for acts which, committed by sane persons, would be considered criminal?

From the consideration of this must be excluded all those points likely to arise in the cases of those crimes committed under the influence of stimulants and narcotics, producing an abnormal condition of, or damaging the mind and brain. The law speaks on such with no uncertain voice; the fact that a man was drunk, or had otherwise temporarily, by his own default, lost control of himself, is no excuse for a crime committed during that time. The reasons for this are obvious and cannot be answered; but that the same stern measure should be meted out to those who, from no immediate fault of their own, are unable rightly to control themselves, or are entirely ignorant of the true nature of their actions, is a proposition so barbarous and outrageous that one can only wonder at the tardiness so abundantly displayed by past generations in moderating the pristine cruelty of the law on this subject by those changes which here, perhaps, it will not be out of place to shortly review.

It will be surprising to many to learn that it is not necessary to go back several hundred years to discover a law dealing with the insane, harsh and barbarous in the extreme, for so recently as 1723 we find a distinguished judge (Mr Justice Tracy, in Rex *v.* Arnold) saying, "It must be a man that is totally deprived of his understanding and memory, and doth not know what he is doing no more than an infant, a brute, or a wild beast; such a one is never the object of punishment." All others, the same learned judge goes on to say, are responsible for their criminal actions, whether sane or only partially insane, and it is a remarkable feature of the law of that period, that although one upon whose sanity there was a doubt, upon whose mind the shadow of some mania, however slight, had fallen, could not make a will disposing of his property, or enter into any contract respecting the most trivial matter, he was liable to answer with his life for an offence against any one of those many rigorous and bloody laws which then prevailed for the repression of crime. This atrocious theory, so repugnant to human nature, so merciless to a class already terribly afflicted, bearing with it the sanction of the great lawyers of past ages though it did, could not be expected to have a long term of existence before it, to be passed over and neglected in the many reforms witnessed by the eighteenth century.

But it is not until 1812, in the case of Rex *v.* Bellingham, that we find the judges adopting another, though hardly more humane theory as to the degree of insanity necessary to remove the responsibility for crimes from those who had offended under the influence of mental disease. The adopted formula now was that incapacity to distinguish between right and wrong (not, mind you, in reference to the special act, but generally) should alone be sufficient to excuse. This is clearly a step forward from 1723, but equally clearly it is monstrously unjust to those who, sane enough on most things, abhorring wrong in the abstract as much as the sanest amongst us, are still insane on some one or two subjects. Another step forward must be made, and this was made in 1843, when a man called M'Naughten was tried for the murder of a Mr Drummond, whom he had killed under the influence of a delusion which obviously induced to the crime. M'Naughten was acquitted, but to settle the law on the subject the House of Lords called the judges before them and submitted certain questions. Then first we have, in the answers, the law laid down that to entitle to an acquittal it would be sufficient for the defence to prove that the prisoner's mind was so far diseased that he did not, when committing it, know the nature and quality of his act, or that he did not know it was wrong.

Unfortunately, however, the judges were not unanimous, and several exceptions to the general rule crept in that have been the subject of much acrimonious discussion, and notably one that if an act committed under the influence of delusion as to existing facts were one which, if the facts really existed as in the mind of the actor, would be justifiable, then no criminal liability should attach; but if, on the other hand, it were one that would be unjustifiable and illegal under any real existing state of circumstances, punishment should follow as in the case of a sane person: *e.g.*, a killing committed in order to obtain revenge for fancied insults or injuries, or because it might seem to the disordered mind a short and ready method of acquiring desired wealth or happiness, would subject the perpetrator to all the usual consequences of murder; but there would be no criminality in one who, to avoid some delusive mortal or terrible peril, slew the person from whom the danger seemed to emanate. No judicial or authoritative alteration of this statement of the law has been made; but, on the other hand, that it has not commanded the entire approbation of jurists is evident from its not having been accepted by many foreign tribunals, although in many other respects the English criminal law has been adopted. Nor has it commanded the good opinion of the majority of those writers on medical jurisprudence who, being doctors, seem to have completely ignored the impossibility of making general laws applicable to every particular case.

In spite, however, of objectors, the law must be considered as settled so far as the answers go and are unanimous or supported by the majority; but that there is still room for serious doubt on this great question of responsibility is apparent, when we find so great and usually emphatic authority as Mr Justice Stephen, in his able *Digest of the Criminal Law*, considering as doubtful, in deference to the opinions of Mr Baron Parke (expressed in Reg. *v.* Barton, 3 Cox, C. C., 275), and of Mr Baron Bramwell, now Lord Bramwell (expressed in Reg. *v.* Haynes, 1 F. and F., 666), the bracketed passage in the following statement of the law:—

"No act is a crime if the person who does it is, at the time when it is done, prevented [either by defective mental power or] by any disease affecting his mind,

"(*a.*) From knowing the nature and quality of his act; or,

"(*b.*) From knowing that the act is wrong; [or,

"(*c.*) From controlling his own conduct, unless the absence of the power of control has been produced by his own default.]

"But an act may be a crime although the mind of the person who does it is affected by disease, if such disease does not, in fact, produce upon his mind one or other of the effects above mentioned in reference to that act."

That a state of finality has been reached in the legal view of mental disease, or that this state of the law is the best possible, even granting the doubts of Baron Parke and Lord Bramwell to be without foundation, can hardly be seriously urged, but that grave fault can be found with it on the ground of harshness or dissonance with justice it would be equally impossible to maintain. Being a part of our criminal system, it will be in all cases construed in favour of a prisoner, and a reasonably elastic interpretation of it will do much to avoid, "on the one hand, that kind of inhumanity towards the defects of human nature, and, on the other side, that too great indulgence given to great crimes," which Lord Hale so earnestly deprecates. That there will be many and great improvements in this as in other branches of judicature it would be idle to deny; but it is by no means so abundantly evident that these can come from those concerned in the making, administering, or practising the law.

A crime may be defined as an act contrary to the law, done with knowledge of its nature and of its illegality, and by the word act we understand such a muscular motion as is voluntary, or preceded by the peculiar phenomenon entitled will. Contrast with this the criminal law on the subject of mental disease as stated above, and we find it meeting every possible element of a crime, and refusing to treat as an offence against itself any act in which any one of those elements is lacking. In this state of affairs it becomes difficult to understand or to realize the justice of those clamours as to the exquisite cruelty and inhumanity of the law, which seem to be the outcome of the burning indignation of those who are so ready to raise them. If the law be wrong, it is at least logical, and the error is in the definition of a crime, or the idea of how one should be treated. Granted the premises, it is impossible to see what more can be done by the lawyers until the other great profession, the doctors, will give them some more definite and—let us whisper it—less debatable information on the subject of insanity.

It may be of interest here to note that the civil law, which, as we have seen, was formerly so very strict in its regulations to prevent the mentally diseased being sufferers by their own acts, or dealing with their property so that others would suffer, that it even invalided wills made by those who suffered from mania that would not, in all human probability, have disturbed their right appreciation of their duty towards their issue and relatives, and that although the wills so treated were, so far as internal evidence could go, in entire accordance with natural affection and duty, has been of late years so construed as to bring it more into harmony with that obtaining in criminal matters. Since the classic judgment of the late Lord Chief Justice Cockburn—classic not only on account of the law there laid down and supported by the most masterly reasoning, but also because of its elegant and graceful diction—in the case of Banks *v.* Goodfellow (5 L. R., Q. B., 549), it must be considered as settled that the mere fact that a testator is subject to delusions is not a sufficient reason for holding the will to be void, unless it shall be proved that they have affected the general faculties of his mind, or influenced him towards a particular disposition of his property. This has since been followed in Smee *v.* Smee (5 P. D., 84); and in the case of Jenkins *v.* Norris (14 Chancery Division, 674) the Court went further, and held that the mere existence of a delusion in the mind of a person making a disposition or contract is not sufficient to avoid it, *even though the delusion is connected with the subject matter of such disposition or contract*, and that it was a question for the jury whether the delusion affected the disposition or contract.

The theory of the law in regard to the mentally diseased being now made plain, and, it is submitted, abundantly justified, the result of the reduction of that theory into practice remains for consideration. Here, it must be confessed, matters do not present so pleasing an aspect, for rarely indeed is there any case tried in which the plea of insanity is set up, and in which public interest is awakened, without there being a mighty conflict of opinion. That the outside public should take different sides is only to be expected, but that able and learned gentlemen of the medical profession should seize their pens and make the public press a jousting-ground, is a circumstance so strange that we are constrained first to wonder and then to try to understand why this should be so. The only apparent reason is that there are at present many and very forcibly urged doubts as to what constitutes such a degree of mental derangement as to entitle a transgressor to be considered irresponsible. The members of the medical profession say the law is too severe; the lawyers retaliate by saying, if the line be not drawn somewhere, if any relaxation be permitted, there will be no certainty as to the punishment of crime. It is round the standard of those who urge that "moral insanity" should be sufficient to excuse that the battle rages fiercest; and let this daring but hardy band be overpowered, and there can be little doubt peace would be restored. Let us consider what this "moral insanity" is. From the authorities we learn it to be that condition in which the sanction of the *moral* law is of imperfect or no obligation, and a crime as an offence against right has no terrors to the mind, cognizant though it be of its nature, illegality, and immorality. Is this state sufficient to justify the law in holding its hand? Before answering this question we must remember, and have most clearly impressed upon our mind, that the law never acts vindictively. To punish for the sake only of revenge is no part of its functions, which, rightly and properly considered, are, to so visit a transgression that others may be deterred from the like offence and may see an example of the supremacy of the law; and to so deal with the transgressor that he may not have it in his power to continue in or return to wrong-doing, and that the public may be protected from him. And here it may be proper to remember that it is almost exclusively in cases of murder that the conflict is most severe and that the advocates of irresponsibility have the greatest apparent success; for when an offence is one that does not bring on itself the dreadful sentence of death, those most interested frequently doubt, as well they may, the desirability of setting up the plea of insanity, which, if successful, is most frequently followed by confinement for an indefinite period amidst the gloomy horrors of a criminal lunatic asylum, a punishment to most infinitely more severe than a sentence of penal servitude.

To the subject of murder we may, therefore, confine our remarks; and here also we may further digress to point out that the question of capital punishment is but remotely connected, if at all, with the subject under consideration, frequently and powerfully as it has been made use of by some who have written and argued strongly in favour of reform in this branch of the law. While there is no alternative for judges when a verdict of wilful murder has been returned by a jury, and a sentence of death must be passed, it is but starting on a bye question, but appealing to a sentimental feeling, to drag in capital punishment. The real question and the only one, is the justification of the verdict, "Guilty of wilful murder;" that is to say, if all the circumstances which we have mentioned as necessary constituents of a crime were present. The best way, perhaps, of approaching this point is that already largely adopted by writers on the subject. Certain cases have been the subject of much argument, and none can object if those cases most relied on by the advocates of irresponsibility are dealt with. The principal ones are the Alton murder and Barton's case. Barton murdered a boy under most brutal circumstances and without the slightest provocation, but with the express intention of getting hanged. He was not, and never had been, considered insane, and although, doubtless, of a low mental organization, there was nothing to show any delusion impelling him to the crime. Is there anything here, then, to show that any of the constituents of a crime were wanting? That Barton knew his act to be contrary to the law, and was aware of its nature and illegality, and that it was voluntary, is proved by the motive—to be hanged. The Alton murder was slightly different in facts, but the principle applicable is, it may be contended, the same. The prisoner was a clerk in a solicitor's office, and one afternoon he induced a little girl to go with him into a hop-garden, brutally murdered her, cut up her body, and carefully scattered the fragments. He, again, had never shown the slightest trace of insanity; some of his relations had, but the only fact relied on as showing mental disease in him was that in his diary was found an entry, "Killed a little girl; fine and hot." That he, also, was fully cognizant of the nature and illegality of his act is clear from the pains he took to scatter the evidence of his crime, and that it was not the result of some sudden and violent paroxysm or frenzy of such a nature as to deprive him temporarily of control is shown by the absence of that fearful remorse which would most surely possess one who had committed such a deed under an uncontrollable impulse. Similar cases might be cited *ad nauseam*, but the difference would be in detail only. The Golding trial, fresh in the memory of all, is perhaps the most recent one in which moral insanity was strongly brought forward as a reason why the sentence of the court should not be carried out. In all we do not find one single trace of mental derangement previous to the crime for which the transgressor has been put on his trial, nor in that act can we discover that rash disregard of personal safety which might furnish an argument, however slight, of insanity. On the other hand, all we do see is a horrible and unnatural disregard of the feelings of human nature and of the sanctity of human life.

From these instances, then, from the authorities, and from our general experience, we know that among us there are persons entirely devoid of natural love and affection, for whom right-doing possesses no charm, wrong-doing no terror, save that which the law attaches to it, by whom wanton cruelty towards all incapable of retaliation is displayed, who lie and steal without cause or reason, and yet know all the consequences and penalties which follow their evil works, are skilful in all dealings, and whose mental powers are not infrequently of the most vigorous and commanding order. For holding such responsible for their actions the law is, we are told, harsh and unjust. We have seen that, whether harsh and unjust or not, it is at least logical. Can the same be said of the would-be reformers? What is "moral insanity?" Is it anything else but imperfection of moral character? Surely nothing else. All who commit offences, of whatever degree, are clearly not perfect in their moral character. Therefore we get to this conclusion: All criminals are to escape punishment, because their moral organizations are proved by their crimes to be imperfect, *i.e.*, they are "morally insane," and the greater disregard for right and wrong they have shown, the greater their "moral insanity." A conclusion thus absurd leaves but a poor impression of the reasoning of the advocates of irresponsibility in cases of "moral insanity," however much their zeal may command admiration and their motives respect. One is almost impelled to fear that there is much truth in the assertion that mental disease is infectious, and that some of those who have devoted so much time to the study of madness have not entirely escaped a slight touch of the disease.

It is satisfactory to find that this doctrine of moral insanity has been invariably denounced by the judges, and even some of its advocates admit that it has sometimes been used to shelter an atrocious criminal. Whether it will ever be reduced to such proportions that judicial notice can be taken of it is doubtful; but at present, aiming as it does at the root of all order by showing that no law that punishes a wrong-doer for his transgression can be just, it is rather to be regarded as one of the most remarkable theories ever set up, absurd in its premises, and monstrous in its conclusions, a truly wonderful instance how far enthusiasts will go when once fairly mounted on their hobby-horses, and a proof of unregulated and unreasoning zeal little to be expected in those whose profession would seem to incline them towards the severest mental control.

Having now considered the doctrine of "moral insanity" in its relation to the criminal law, let us shortly examine the operation of our judicature in those more simple cases where a defence of mental disease of a pronounced and acknowledged type is set up. Here it is to be greatly feared that the results are not all that might be desired and expected. The law, as laid down, is apparently sufficiently simple and plain, but its application seems to be difficult; too much so, in many instances, there are only too many reasons to believe. As in treating the other branch of the subject instances were cited, it will be as well to follow the same plan here, and mention a case which, although it has not hitherto been mentioned in any work on the subject, created a great impression in many minds at the time.

A gentleman, aged between 40 and 50, and who previously had borne a high character, was placed on his trial for attempting to murder his children and to commit suicide. A letter was put in evidence by the prosecution, wherein the prisoner said he was taking them to meet his first wife, who had died some years previously. She was always calling them and him, and when they came she would lead them into the presence of the Saviour, and they would all then enjoy everlasting happiness. When charged, he admitted his intention "to take the children," and made a long, rambling statement that "he could not help it; his wife, who was an angel, told him to do it, and she must know better than any men." Now, at the first sight, all this seems conclusive evidence of insanity. Doubtless he knew his intention to be illegal—he had taken precautions against interruption—but did he consider it wrong, *i.e.*, productive of divine punishment? This is, of course, the real test, for earthly law must, even with the sane, give way and be subservient to the divine will when there is an apparent conflict. How much more, then, in the case of a mind diseased! The necessity of obeying the behests of the spirit of his dead wife must inevitably have overshadowed all other considerations, and mere earthly obstacles to such obedience must have been impatiently surveyed and peremptorily swept aside. There is, however, another consideration: might not this letter be a mere cunning device to avoid the consequences of his crime if it failed, and the subsequent statement a further and consistent development of the same scheme? They were both the work of the prisoner, and to rebut the presumption of law, that every act is done with intent and knowledge of its nature, stronger evidence and less tainted must be produced. Then it was proved that the prisoner's parents had been eccentric, although never distinctly insane. He himself had been considered a strange lad. At the age of 14 he received a severe injury to the head. His first wife, the one mentioned in the letter and statement, had died somewhat suddenly, leaving him with infant children. His second wife, formerly a servant in his employment, had turned out a confirmed drunkard; and at the time of the attempt he was financially embarrassed. In addition it was also proved that although clever at his occupation, the tedious and wearing one of a hack writer to daily and weekly journalism, he occasionally wrote the most arrant and incoherent nonsense.

After hearing all the evidence the jury found a verdict of guilty, and he is now undergoing a sentence of penal servitude. Before going further, let it be clearly understood that all the evidence in favour of the plea of insanity was undoubtedly true, and was accepted as such by the learned counsel for the prosecution. In the face of these facts the question arises, Was the prisoner rightly convicted? To answer this accurately many points must be considered; and first let us deal with the eccentricity of his parents. The doctrine of hereditary insanity is too well established to need proof or comment here. But is eccentricity a symptom of insanity or mental disease? Not in all cases, but in very many it appears to be so, and instances are not infrequent in which it has seemed to act in some degree as a safety-valve. When the eccentricity has been humoured, all has gone well; a sudden check or violent shock has resulted in pronounced insanity. On this point Dr Maudsley, the professor of medical jurisprudence in University College, London, says, in his work on mental responsibility:—"In families, some members of which have displayed decided insanity, other members have been eccentric. Secondly, eccentricity, after lasting for a time as such, has culminated in insanity. Thirdly, monomaniacs who are known to be insane on certain subjects are often eccentric in their whole conduct. And, lastly, persons who have been decidedly insane, having laboured under one of the recognised forms of mental derangement, often remain eccentric during life after their reputed recovery." So clear a statement from such an authority should be sufficient, but Dr Maudsley says later on, speaking of eccentricities:—They are a vicarious relief, a sort of masked madness." Here, then, we have an emphatic symptom of insanity. True, it is not conclusive, nor is it necessary that it should be so. There are other questions to be discussed before the main issue of the prisoner's sanity or insanity can be considered. It is well known to all who have had any experience in cases of insanity, how great a difference physical injury to the head may make in the mental health and moral character. Dr Wigan says, and Dr Maudsley cites him with apparent approbation, "I firmly believe that I have more than once changed the moral character of a boy by leeches to the inside of the nose." More recently,—so late, indeed, as 19th June 1882,—we have an instance in the public press. A police constable, in the April preceding, was severely beaten about the head with wooden cudgels. For a long period he was ill, and two months after the injury was inflicted he became insane, and a homicidal tendency, so violent that it was necessary to confine him, was developed.

Remembering this, then, the injury done to the head of the prisoner becomes a point that must be borne in mind, and one that helps materially towards the solution of the problem. Then the sudden loss of his first wife, the terrible vice of his second, and his financial position, are each of them sufficient to overthrow the minds of many who live and die with all the repute of perfect sanity, never having had to pass through any terrible ordeal. How much more, then, one with such a trembling balance, ever inclining and being forcibly drawn one way, and only kept in apparent equilibrium by the hard and continuous work of one who had little time for self-communion or to permit his thoughts to run in any groove but that necessary for his occupation! To do his work at all he must have exercised all his powers of application, and that that was not at all times sufficient, doubtless being weakened by the constant strain, is demonstrated by failure at times to produce that which he desired.

To enlarge on the several points mentioned is unnecessary. It is clear, almost beyond possibility of doubt, that the brain was diseased, and there is almost an overpowering presumption in favour of the supposition that his first wife was a frequent subject of his insane thoughts. Here, then, is the connexion between his insanity and his crime. Why was he convicted? What evidence to meet this was called? What theory was set up? None. The prison surgeon, doubtless an admirable and learned member of his profession, was the only professional witness for the prosecution, and he merely said he had conversed with the prisoner, and could find not the slightest traces of insanity. Probably so. He had talked on general subjects, and on those the prisoner was, like most of his profession, well informed, and likely to talk sensibly enough. The jury, searching for guidance, followed the surgeon (and none can blame them), and the judge, as almost in duty bound, accepted his evidence implicitly.

The injustice done to the prisoner in this case is not without many parallels. The only difference between it and many others is the presence of so many symptoms of a diseased mind, without any overt act of decided insanity, preceding the offence for which the prisoner was placed on his trial.

Here, then, we have evidence, if, indeed, any is needed, that many of the mentally diseased suffer by the operation of the criminal law, but it is not at all evident that the blame is on the law. Is it not rather obvious that the fault is on the side of that other profession which is supposed to have the insane under its especial care, from the ranks of which the agitators for reform of the law are mostly gathered? A change must come, and the students and professors of mental science must inaugurate that change. Luckily there are already those who are doing heroic work in this direction, and, by patient study of the brain and its functions, and by temperate expressions of opinion based on unwearied and skilful examinations, are doing more day by day to ameliorate the lot of the mentally diseased than has been done in generations by those zealots who, by claiming hopeless concessions, abusing judges, and indulging in wild tirades against the law, with an occasional tilt at fox-hunting, capital punishment, and other subjects not immediately, if at all, connected with mental disease, have aroused a strong feeling of distrust of them and all their works. A bad cause gains nothing by such wild invective or such discursive advocacy as they have employed, and it is more than likely that a good cause is damaged by it. Napoleon's injunction, " Mais surtout, point de zèle," is good advice for them, and it will be well for them if in future they will remember it.

There is another point connected with this subject, which, although the connexion is not a very intimate one, may be touched upon, and that is, how far does the action of the Secretary of State for Home Affairs tend to remove any cause of complaint in the cases of the mentally diseased? No doubt the judges and medical gentlemen of the very highest standing are consulted, but to the public mind very little satisfaction is given, and that because the Home Secretary is practically a judge who acts on private information; and since the days of the Star Chamber a secret tribunal has been hateful to a people accustomed to have all disputed cases tried in open courts to which the press and the public are admitted. No doubt the evidence on which a decision is formed is of the most cogent character, but there is no direct overwhelming proof that it is; and if an alteration could be made by which the question of sanity or insanity could be tried as publicly as the other question of the doing or not doing of a certain thing, it would give greater satisfaction than the present method can ever do.

In conclusion, then, we have the necessity of such a reformation as will remove two causes of scandal—the improper punishment of those who, by reason of mental disease, are unable of rightly appreciating the nature and consequences of their actions, and the disputes and outcries in those cases in which persons are rightly called upon to answer for their crimes. As the necessity is two-fold, so by efforts in two directions the reform may be accomplished. Firstly, and principally, by the more systematic study of mental disease, so that all doubts may be removed, and technical witnesses be able to speak as firmly and with as little fear of contradiction as now in physical cases,—a work surely worthy of the greatest and truest philanthropist, the amelioration of the sad lot of those who have entered into the skirts of the dread hailstorm, worthy, too, of the mightiest intellect, the making of some safe path through the slough of ignorance, the dispelling of those fogs and clouds which have so long hindered and impeded those who have honestly and earnestly endeavoured to reach the true solution of this great enigma aided by such Will-of-the-wisp-lights as could be got from watching instances without studying causes. That this branch of the necessary reform is receiving attention is evident from the many thoughtful works on the subject issuing from the medical press. It is not too much to say that the day is not far distant when it will be possible for experts to speak as positively on the state of the mind, to diagnose as accurately in mental cases as now is daily done in less subtle matters. These efforts will be aided and their effects enhanced by the second branch of the reform, *i.e.*, by such an alteration in our legal procedure as will allow the question of the mental condition of a prisoner to be tried before those capable of judging, in open court, on proper evidence. How this is to be done is for others to decide. It is enough for us now to merely suggest a plan, and ask if this desirable consummation could not be attained by the appointment of medical assessors to sit with and aid the judge, in the same way as nautical assessors now assist the judges of all courts having jurisdiction in Admiralty cases with their knowledge and experience in all cases requiring a knowledge of nautical matters and skill. It would not be necessary for the medical assessors always to be present. Their attendance might be secured by notice from those entrusted with the defence of a prisoner. They might sit at the same times as the jury, who would then be relieved from a frequently very onerous portion of their duties, the deciding as to the condition of a prisoner's mind, or they might be called in to a second trial if a jury had found a prisoner guilty of doing something, to find whether that doing was done while the prisoner was in full possession of his faculties. The other details would be equally simple, and the advantages obvious. Witnesses could be asked by cross-examination, and the inclination of a tender-hearted individual to somewhat strain the truth from pity of a prisoner or a prisoner's friends would be repressed.

Whether there is anything in this suggestion it is for others to judge; but, whether in this direction or in any other, something should be done, and that quickly. Humanity demands it, and the sooner this demand is complied with, the sooner shall we feel we have done something to lighten the grievous burden of those most deserving of our pity, most sadly afflicted, and the sooner will those disputes between experts cease to be so rancorous, and the defeated disputants cease to fill space with those cries of injustice, legal murder, etc., which, though little heeded, leave an unpleasant fear behind that it is just possible some poor sufferer has been done to death wrongfully through the operation of the criminal law.

ARTICLE II.—*On a Form of Loss of Memory occasionally following Cranial Injuries.* By JOSEPH BELL, Surgeon to the Royal Infirmary.

(*Read before the Medico-Chirurgical Society of Edinburgh, 16th January* 1883.)

THE subject of the present paper, so far as I can discover, has attracted the attention neither of practical surgeons nor of psychologists; and yet I believe it is one of very considerable interest, both practically as a diagnostic symptom of some value, and scientifically as bearing on the question—the very difficult question—of what memory is.

After cranial injuries of all degrees, from the slighter ones, once supposed to involve no gross structural lesion, up to the more severe, in which hæmorrhages, lacerations, compression, and some loss of cerebral substance can be predicated, it is well known that psychical disturbance is exceedingly common—not invariable, but, if looked for, almost always present in some form or other. The more common varieties are the following :—

1. An instantaneous unconsciousness, *i.e.*, a loss of recognition of one's individuality, followed by giddiness, stupidity, foolish talking, etc., which may pass off sooner or later, but still is in immediate relation to the accident and gradually disappears.

2. A set of phenomena, very various in nature and amount, beginning a few hours after, and depending on structural or inflammatory changes in the cranial contents—feverishness, delirium, dreams, etc., passing off into the fever or lapsing into coma from compression. If from hæmorrhage these may be very rapid, if from meningitis may be slower, but are to be counted by days and weeks.

3. A set of phenomena of a much later and more dangerous character, connected with structural changes in the cranial contents in the direction of atrophy or softening, where you may have delusions, loss of memory, change in character, and eventually paralysis and dementia.

Every experienced surgeon could recall and cite numbers of specimens of each and all of these. Some of the third class especially are most interesting and remarkable.

The present paper deals with none of these, but with a much more curious and unexpected psychical phenomenon. What I wish to direct your attention to is, that in a certain number of head injuries, in addition to and after recovery from the early symptoms, which I have classed under the first or primary phenomena, it is found that the victim has, much to his own surprise, *forgotten entirely*, not the accident itself and the succeeding circumstances only, *but a certain length of time, varying in different cases from minutes up to hours, and even days, with all its actions, pains, and pleasures, before the accident happened.*

This is so unexpected, and it is so difficult to explain, that I fancy it is often missed (*a*) by the patient not liking to confess it; (*b*) by the doctor putting it down to intoxication before the injury. For the last ten years I have kept this point in view in every serious case of head injury I have seen; and after excluding every doubtful case, such as accidents happening to drunk, or narcotized, or exhausted people, and all cases where delusions were present from inflammation or pressure, a residuum remains of intelligent, healthy, sensible adult cases, who after complete recovery have found that they have lost utterly from their memories hours and even days which they had spent in perfect health and vigour prior to the accident which rendered them unconscious.

A few specimen cases may now be briefly given :—

CASE I.—A. W., a very able and learned man, nearly fifty years of age, of abstemious habits and in perfect health, was rendered temporarily unconscious (for probably not above five minutes) while receiving two severe scalp wounds in occipital region by the upsetting of a coach.

He volunteered to me, three days after the accident, a question, including an expression of surprise, as to how I explained the fact that he had lost memory, not of what happened after the accident, but of the few minutes which had passed before it. It struck him as a very remarkable occurrence, and one which involved difficult metaphysical problems.

CASE II.—W. B., æt. 19, an intelligent lad in business, was rendered unconscious for about twenty minutes by a severe concussion, the result of a railway accident. On coming to himself, remembers nothing whatever of accident or of occurrences before it, such as his walking down to the station and getting into carriage.

Note.—This condition I have observed frequently after railway accidents attended by concussion. The patients can neither understand the mental condition nor explain how it happened to them, and thus very often, from discussing the prior phenomena with friends and fellow-sufferers, having no distinct recollections of their own, get completely confused, contradict themselves in the witness-box, and are credited sometimes with imposture, and sometimes with shamming.

CASE III.—A young miner, who sustained an extremely severe and complicated fracture of vault of skull, with cerebral hæmorrhage and many days of unconsciousness, on recovering, which he did completely, found that though the accident happened on a Monday morning, he having gone to his work perfectly sober and in absolute health, he had completely lost from his life the whole Sunday, which he had spent visiting his sweetheart, and the greater part of Saturday evening and afternoon. No suspicion of intoxication or narcotics could explain away an hour of his loss.

CASE IV.—A very intelligent foreman in a brewery fell down a deep well, striking the sides in his fall, and having serious scalp wounds and concussion. He, on his recovery, is so much puzzled and amazed by the loss of memory of the events which preceded the injury, that he actually makes guesses at his proceedings, but fails to explain to his own satisfaction, or that of any body else, what it was he was doing to the well and its rope.

This man's case also illustrates very well one of the uncommon sets of mental phenomena following accident, which I have classed as 2, depending or structural or inflammatory changes, which are to be measured by days. After coming out of his comatose condition, he for several days was odd, speaking sensibly enough, but with an uncomfortable plainness of speech; as, for example, he stated his belief that my head nurse and I were a set of duffers because we kept him on low diet. During this period he did not recognise his own wife, did not know he had such a relation, and so on.

But mark the difference. All these delusions are forgotten on his recovery, or remembered only to be laughed at—everything in the past is now recalled, except the lost hour or two immediately preceding the accident.

This case may call to the minds of some of the members the case of the lawyer who, after finishing a long and complicated piece of business, went for a ride on the sands, was thrown from his horse, had severe concussion, and on recovery was quite forgetful (as if it had never happened) of the business he had so successfully finished.

Since this paper was written, the following interesting note by Mr Savory has been published in the *Lancet* for November 25th,1882:—

> "The curious fact that in concussion of the brain not only may there be complete loss of consciousness for a considerable period after the injury, but that in some cases after complete recovery there may be total loss of memory of all events which have happened shortly before the injury, has not perhaps received the attention it deserves. The following cases may be taken as examples:—
>
> "The driver of a hansom cab was knocked off his box by an omnibus at the top of Newgate Street, and brought to the hospital in a state of complete unconsciousness from concussion. From this he speedily recovered; but, at least for several weeks after, when he appeared to be in every respect quite well, he could not in the slightest degree recollect what he had done or seen, or where he had been in the half hour immediately before the accident. It was known that within that time he had taken up a passenger at Cornhill, and driven along Cheapside and Newgate Street, yet of this he never had the faintest recollection; but for all events up to this time his memory was excellent.
>
> "Again, a gentleman was thrown from his pony at polo, and picked up quite unconscious, in a state of concussion. He recovered from this in the course of two or three hours, and in a few days was as well as ever. But he could never recollect some striking events in the game which occurred within half an hour or so of the accident; yet up to this blank period his memory was minute and accurate.
>
> "Now, what happens in such a case? I suppose no one can tell. The substance of the brain is shaken, and presumably for a time damaged in some way or disturbed; or, as we may say, its nutrition is temporarily impaired, and thus may subsequent loss of function be accounted for. The recollection of a bygone event shows that some impression which the brain receives at the time has been registered; and this must be, I suppose, by some change, however subtle, which is more or less durable. Does the violence of the concussion somehow interfere with the registration of such change—wiping out, as it were, the record before the ink is dry? But such guessing as this only shows how very far I am from understanding the fact."

Memory seems to have got scant justice from both physiologists and metaphysicians.

Two things, however, seem to be implied in, or to be necessary for, a completed act of recollection, or *memory*.

1. The fact, or word, or thought must be *recorded*, *i.e.*, some permanent change or impression must be made on brain cells, by which it is stored up for future use.

2. When required it must be *recalled,*—*i.e.*, by an act of volition more or less rapid and easy in different people, aided mainly by what we call association, initiated often by other organs of sense, such as sight, smell, or hearing, we bring back, *re*collect, what has been recorded and retained.

Now these injuries which I am describing have in some way destroyed the recording power for a time, or at least prevented a certain amount of phenomena from being recorded at all. For, notice this, all my cases have no loss of power of *recall* or recollection. They can go back to the past long beyond their injury with perfect accuracy; there are no delusions, no hiatuses.

Does this not give us the hint that for a safe *record* a certain amount of time is needed, as a photograph needs a certain amount of exposure, and if this is interfered with the picture is blurred or wiped out.

From the recently published memoir of one of the wisest and best of men and philosophers, James Clark Maxwell, we quote the following:—

"We can thus trace a continuous series of the instruments of memory; . . . and we are tempted to ask whether all memorials are not of the same kind—a physical impression on a material system.

"The last American invention of the past year is Edison's talking phonograph. This instrument has an ear of its own, into which you may say your lesson; and a mouth of its own, which at any time is ready to repeat that lesson.

"The memory of this machine consists of tinfoil, thin enough to be impressionable by the metal style which is set in motion by the voice, and yet thick enough to be retentive of these impressions, and at a proper time to communicate a corresponding motion to the style of the talking part of the machine.

"Such is the heart of this instrument, by which it gets its speeches. Are our own hearts essentially different? We know what damage can be done to any memory by physical disturbances. The page is lost out of our consciousness" (p. 453).

But it may be said, Is it not a sadly materialistic or mere physical idea of such a high faculty as memory to think that a shake or a laceration of brain can thus prevent record? True; still the mere fact of the patient being made unconscious will not spoil record. I have made many experiments on this while putting patients under anæsthetics, and find that almost always intelligent patients can recall with great accuracy the last words spoken before unconsciousness.

A good and easy test is to make the patient hold up one hand and count slowly while inhaling. It will generally happen that just as the hand falls the patient ceases to count. Then the operation may be begun and finished, and on allowing the patient to come out of the chloroform it often happens that the next number to the one counted half an hour before is slowly pronounced.

It may be here asked, Can we determine the portion of brain which does the recording by any information derived from the cases in which these phenomena occur? To this I must answer, not as yet. With the utmost desire to localize, I have as yet completely failed to arrive at any precise results. This is less remarkable when we consider that, so far as we know, it is a general shake rather than any special laceration or lesion which is generally followed by this curious symptom.

ARTICLE III.—*Nasal Disease as a Cause of Asthma.* By G. HUNTER MACKENZIE, M.D., Lecturer on Laryngology in the Edinburgh Medical School.

THAT polypus of the nose may bear to asthma the relation of cause to effect was first recognised by Voltolini, and, since the appearance of his article on the subject, several additional cases have been recorded, where this relationship has been indubitably established. It appears, however, that the present is the only case on record in which chronic inflammation of the nasal mucous membrane (rhinitis chronica), *without the presence of a polypus or other source of nasal stenosis,* is clearly demonstrable as a cause of aggravated and persistent attacks of asthma.

A lady, æt. 48, consulted me on 11th October 1881, on account of a chronic "cold in the head" and nocturnal attacks of shortness of breath. The affection of the nose had lasted for about seven, the asthma for about two, years. Her family and previous history was good. The asthmatic attacks were worse during the months of August and September than at other periods of the year. The attacks came on almost invariably on alternate mornings about 2 o'clock, and were of a severe and alarming character: they were preceded or accompanied by profuse watery discharge from the nose, and sneezing. Treatment of various kinds had been tried without benefit. The patient was thin, and suffered from dyspepsia: no abnormality in the heart or lungs could be detected. On examination of the nose anteriorly, the mucous membrane was thin and atrophied (the atrophied form of chronic rhinitis): posteriorly, with the aid of the rhinoscope, the same condition was present, with a collection of mucus on the nasal floor. There was no ulceration or growth present. The treatment recommended was to give entire attention to the condition of the nose, cleansing it by means of a spray of salt water and subsequently of boro-glyceride, and then making use of a snuff of bismuth, quinine, and soda. Inhalations of creasote vapour were also occasionally practised. The patient has now been under observation for about fifteen months, and during the whole of this period has not had a single attack of asthma. The nasal discharge has entirely ceased, whilst the mucous membrane is apparently unaltered.

This case indicates that, even in asthma dependent upon nasal polypi, the respiratory difficulty is not necessarily owing to stenosis or closure of the nasal passage. It thus differs from the asthma or apnœa occasionally met with in infants, who breathe exclusively through the nose during sleep, the oral passage being closed by the physiological incident of the tongue pressing against the hard palate. If the nose be obstructed,—and very little swelling of the nasal mucous membrane is sufficient to effect this,—the mouth is unavailable for breathing purposes, and consequently the infant awakes in a violent fit of dyspnœa. This appears to be the condition present in many cases of so-called "croup" (asthma laryngeum) in infants. In adults with simple inflammation, but, (as in the case now cited) without any nasal obstruction, an explanation of the occurrence of asthma may be essayed on either of two hypotheses: (1.) That during sleep temporary congestion or tumefaction of the nasal mucous membrane ensues, with swelling of the cavernous bodies in the erectile tissue covering the posterior part of the turbinated bones; (2.) That the action is reflex. The first is unsatisfactory, in the present instance at least, for the mucous membrane, as already stated, was in an atrophic condition, and even if complete stoppage of the nose had ensued, the mouth would still have been available for breathing purposes. The theory of reflex action appears the more probable, the exciting cause being either the cold air of the early morning, or the accumulation of mucus in the posterior nares during the first hours of sleep. This idiosyncratic behaviour of the nasal mucous membrane (of which the inhalation of ipecacuanha powder and consequent production of asthma in certain individuals is an example) has been long noted. Experiments have proved that an irritant acting upon the nasal mucous membrane produces a narrowing of the nostrils and an arrest of breathing *in the act of expiration.* This is the nature of the respiratory difficulty which occurs in asthma. The reflex action appears to originate, not in the olfactory, but in the trigeminus nerve, which has a wide distribution in the nasal mucous membrane.

The association of nocturnal attacks of asthma with nasal disease, even of such an apparently simple character as rhinitis, should always direct attention to the latter. Cleansing the passage by free and repeated applications of the nasal spray, and the subsequent application by insufflation or snuffing of suitable powders, are the appropriate remedies. The dyspepsia which frequently accompanies rhinitis may necessitate a course of tonic treatment.

ARTICLE IV.—*Case of Tubercular Meningitis.* By J. MACKENZIE BOOTH, M.A., M.B., Physician to the Aberdeen General Dispensary.

SYNOPSIS.—*Mental overstrain—severe headache—diplopia—left ptosis and facial spasm—double optic neuritis—coma—death—caseous nodules in upper lobe of left lung—tuberculosis of pia mater, and tumour of fourth ventricle.*

ON the 25th of September last I was called to see J. M., a boy of thirteen years, the third of a large family. Till ten weeks ago he had enjoyed good health and had been attending school, where he had been a diligent scholar and stood well in his classes.

Previous History.—Apart from the usual maladies of childhood—scarlet fever, measles, and hooping-cough—he had never, so far as could be ascertained, suffered from any disease. The family history, too, is exceedingly good, all the grandparents having attained extreme old age, while the father and mother and other members of the family are still alive and healthy.

History of Present Illness.—About ten weeks previously the patient, to prepare for impending school examinations, had been working hard at lessons from four or five o'clock in the morning till after ten at night. After these examinations he began to complain of pain in the head, lost his appetite for food, and rapidly fell off in flesh. About six weeks ago his parents noticed that occasionally the breathing got irregular, and were shocked by the frightful contortions of his face, which the boy said he could not avoid on account of the severe headache.

He was then sent to the country for a fortnight, but without any improvement in his condition being apparent. Since that time the headache has got worse and the weakness has increased. Mental stupor has supervened, and the patient sometimes complains of seeing objects double. His friends have also noticed of late that his left eyelid remains partly shut. Sinapisms have on several occasions been applied to the nape of the neck, and once two leeches behind the ear, but without any marked relief to the symptoms.

Present Condition.—The patient is considerably emaciated, and lies in bed on his left side in a torpid semi-conscious state. The face has a vacant look. He moans at intervals, takes little notice of surrounding objects, and occasionally talks nonsense, and refers to his mother and everybody who talks with him as "father." Temp. 101°·7.

He complains of severe headache, which is not referred to any particular part, and is liable to irregular exacerbations. He is never quite conscious, and only sometimes answers questions put to him in a loud tone.

There is marked ptosis of the left eyelid and depression of the left eyebrow—a left-sided frown. During facial movement the muscles of the left side contract more powerfully than those of the right. The left eyeball is turned upwards and outwards. Both pupils are widely dilated, the left a mere ring. On holding a light before them the pupils react but slightly, and the patient complains of a painful sensation. Ophthalmoscopic examination shows marked prominence and swelling of both discs, with blurring of their margins.

The respirations vary from 15 to 20 per minute, and the chest movements are normal. Percussion shows slight dulness over the left apex, and on auscultation the breath-sounds there are heard diminished in intensity.

The pulse is 60, full and regular. The apex beat is in the normal position, but the heart-sounds are weak.

The tongue is dry and coated with a whitish fur. Appetite is wanting, but there has been no vomiting. Abdomen slightly retracted. The bowels have been constipated throughout the whole duration of his illness. The "lineæ hyperæstheticæ" cannot be elicited. The urine is normal.

Diagnosis.—The long-continued severe headache, the double optic neuritis, and the mental stupor, rendered the diagnosis of basic meningitis, probably tubercular, clear enough, and a grave prognosis was accordingly given. The paralysis of the left third nerve and the irritation of the seventh, occurring in the course of the basic affection, pointed to the presence of inflammatory products pressing on the roots of these nerves.

Treatment.—Quiet, as far as possible, was enjoined, and nourishment to be offered at short intervals. A dose of senna was ordered to obviate the constipation. Sinapisms were applied on several occasions to the nape of the neck, and cooling lotions continuously to the head. Five-grain doses of iodide of potash were given in mixture thrice daily.

Progress of Case.—*26th Sept.*—P. 60; T. 101°·3; R. 26. Has been quieter and less deranged, and has not cried so much. Bowels opened twice after senna. Feels very faint when he sits up. Will take nothing but small quantities of stewed apples and corn flour.

27th.—P. 64; T. 100°·8; R. 26.—Fæces passed in bed.

28th.—P. 60; T. 100°·5; R. 25–30, and more laboured and irregular. Coma much more profound. Patient does not put out his tongue when asked to do so. There are constant involuntary movements of the arms, hands, and fingers, picking at the bedclothes, and grasping at invisible objects; sometimes clapping his hands and signing for something to be given him.

29th.—P. 80; T. 100°·5; R. 36. Coma still more profound. Involuntary movements less. Has taken no food for two days, save a little wine at times. Passes urine in bed.

30th.—P. 150–160; T. 101°·2; R. 60. Has taken a little wine at intervals; perspiring very copiously; cuticle peeling off all over body. Death occurred a few hours later.

Next day, with the kind assistance of Dr Anderson of Elmhill Lunatic Asylum, a post-mortem examination was made under somewhat unfavourable conditions of space, light, and convenience. On removing the skull-cap there were strong adhesions between the dura mater and the upper part of the left parietal bone. At that part, too, the dura mater was adherent to the brain. There was moderate flattening of the cerebral convolutions, great engorgement of the veins on the surface of the brain, and a large quantity of serous fluid in the meningeal cavity. Adhesions existed between the arachnoid, pia mater, and the surface of the convolutions, especially over the right parietal lobes. Arachnoid much injected, especially on left side. Both lateral ventricles were greatly distended with fluid, especially their dependent parts, the posterior horns—that in the left being the more opaque. There is well-marked softening of the posterior part of the corpus callosum, especially on the left side, extending along the fornix. Both choroid plexuses are thickly studded with minute granular masses. These extend also over the roof of the fourth ventricle, and a granular mass about half an inch in diameter is found growing from its anterior part. There is marked inflammatory exudation over the tentorium cerebelli. The cerebellum is apparently normal. There is hypostatic congestion of the posterior parts of both lungs. There are extensive and dense adhesions at the left apex, and the upper half of the left upper lobe is consolidated with caseous deposits. The lungs are otherwise healthy. Microscopical examination of the vessels of the pia mater showed the usual appearances of tuberculosis there—inflammatory proliferation of the perivascular lymphatic sheaths of the small arteries. The granular mass growing from the roof of the fourth ventricle seemed to be chiefly composed of these miliary nodules, and to have been produced by their gradual aggregation. Sections of the diseased lung showed multinucleated giant-cells in a dense fibrous tissue, in some parts breaking up into a granular *débris.*

Remarks.—In this case no history of previous chest ailment could be elicited to account for the old-standing lesions at the apex of the left lung, and these must have existed for a long time, during which the boy had enjoyed apparently good health. In presence of these lesions, the severe mental strain immediately preceding the development of the admittedly insidious head symptoms would seem to have been the exciting cause of the meningeal disease, or at least to have rendered the cerebral vessels more susceptible to tubercular infection.

How far the modern system of keen and continuous competition, such as obtains in our board schools, is beneficial as regards children, is, I take it, a very doubtful question, even in the case of the more robust and better cared for; among the weakly or ill-fed, or those who have any special tendency to disease, it must often, as in the above case, furnish examples of untimely decease in a struggle for which the combatant is unsuited.

The absence of vomiting was a somewhat unusual feature of this case. The later symptoms of left-sided ptosis and paralysis of the eyeball muscles supplied by the third nerve, and the resulting diplopia, were doubtless due to the pressure of the granular mass on the root of the third nerve, near its origin from the floor of the fourth ventricle. To irritation of the root of the seventh on that side by the same mass also must be ascribed the left-sided frown and the other exalted movements of the left side of the face.

At the time when he was first seen it was difficult to determine whether there was, as one would expect, undue susceptibility of the left auditory nerve; but as he seemed to hear better the sounds produced on that side, this too is probable. The late and insidious development of these pressure symptoms would also correspond with the gradual aggregation of the granulations into the mass growing from the roof of the fourth ventricle.

It must be admitted that a more careful examination of the chest might in this case have revealed the presence of consolidation and rendered the diagnosis more certain, and this was overlooked partly from the absence of any history of chest disease, and partly from the dislike of the patient to any manipulation. As it was, however, the diagnosis of basic meningitis was evident enough, and must have been so long before medical advice was had recourse to.

ARTICLE V.—*A Personal Experience of Dislocation of the Humerus, and its Lessons.* By NEIL MACLEOD, M.D. Edin.

IN a dislocation of the humerus, when the head of the bone is below the glenoid cavity, the deltoid is put on the stretch by adducting the arm, and this tension is increased by extension of the limb in a line parallel to the long axis of the body. These movements are made in reduction of this dislocation with the "heel in the axilla." Under such circumstances an injury to the deltoid may be produced, or at all events may be greatly increased if already present. Before reducing such a dislocation, one would say that, theoretically, the reducing force ought to have a direction the opposite of that of the force (when indirect) producing the injury. Extension of the arm, as in the method with the heel in the axilla, certainly does not act in this way, but does succeed in reducing the dislocation, with, as I shall show in my own case, the infliction of very great pain (without chloroform), with injury to the deltoid muscle, and possibly an increase of the injury to the capsule and neighbouring soft tissues.

In February 1882, when riding across country after the hounds and going fast, my pony came down and pitched me over his head. I have a distinct recollection of going head-foremost between the legs of another pony which was sprawling on his back, of guarding my head with my right elbow, and then of finding myself standing with the right arm well abducted and carefully supported by my left hand. The injury was easily diagnosed. My partner, Dr Henderson, had fallen in front of me, and in less time than I take to write it my coat was off and attempts were instituted to reduce a sub-glenoid dislocation of the humerus by manipulation. These failed, and being more painful than I could endure, even stunned as I was, I elected to have it reduced with the heel in the axilla. This succeeded, and Dr Henderson set off after the hounds again.

On reviewing the situation, I distinctly remembered the condition of things before reduction was attempted, the general indefinite feeling of soreness about the shoulder, and the acute pain *at the insertion of the deltoid* on any attempt at adduction, absent when the elbow was abducted and supported, or the body inclined to the injured side. When the arm was extended outwards to the right on a level with the shoulder, as was done in manipulation, there was no pain. During reduction with the heel in the axilla the pain at the insertion of the deltoid was intense, and made me feel faint, and it continued for days even with the limb at rest. The shoulder swelled considerably, but on the second day there could be felt and seen two small, hard swellings, separated by a hollow, painful to touch, and situated at the insertion of the deltoid, while the overlying skin was discoloured from extravasated blood, there being no discoloration about the shoulder itself for some days. Six weeks after the injury these lumps were present and still tender, and even now (after eight months) sudden abduction of the arm is accompanied by pain at this spot, probably from adhesions. That there was a tear at the insertion of the deltoid is evident; and this tear, judging from the history of the pain, if not produced, was certainly aggravated, by the process of reduction. It is noteworthy that abduction of the elbow in the attempt to reduce by manipulation was not painful at this spot, though the pressure on the head of the bone was exceedingly so.

The rent in the capsule is made by the head of the bone, the shaft being well abducted, and the return of the head through the rent cannot be facilitated by abducting and extending the elbow downwards in the line of the trunk. The various methods of reduction designated as those of H. Smith, Hulke, Sir A. Cooper, and others, have one element in common, that of *extension of the limb outwards*. So that instead of the surgeon seating himself by the patient's side on the ground or floor, as in the usual "heel in the axilla" method, and making the extension downwards, let him sit at right angles to the patient, with one heel in the axilla, the other on the root of the neck, when extension outwards, or outwards and upwards if preferred, would not endanger the deltoid (in this position not on the stretch), and the head of the bone should make its exit through the rent in the capsule very much as it entered the same. If this method fail without, it could then be tried with chloroform.

As compared with the ordinary "heel in the axilla" plan, the method I suggest has the following probable advantages :—Less danger of injury to the deltoid muscle, less pain during and after the act of reduction, less resistance from the deltoid itself during reduction, and theoretically a more sensible position of the humerus during the act, the head of the bone returning through the rent capsule and soft tissues in the direction opposite to its entrance.

The Application of the Sling.—I wore the ordinary three-cornered sling for two days in the usual fashion, the narrow part of the loop being round the neck, the wide part supporting the forearm and elbow; but I found this very uncomfortable in a jolting carriage and in going up and down stairs, when the arm made movements independently of the body, causing pain, while the elbow was tilted forwards and slightly drawn across the body by the action of the sling. The addition of a band to fix the elbow to the side removed this, but added to the discomfort of the sling, uncomfortable enough from the restraint alone. The same sling, however, I succeeded in applying so as to support the elbow, fix it to the side, and keep the shaft of the humerus parallel to the long axis of the trunk, rendering the motions of the limb consentaneous with those of the body. Let the patient sit on a chair with the injured upper arm hanging perpendicularly, the forearm flexed at right angles and close to the trunk, the hand between supination and pronation. Take the *longest* side of a triangular sling by its two extremities, and apply the middle of this side so as just to overlap the outer aspect of the elbow, the apex of the triangle being towards the hand; then tie the ends (already in the hand) across the injured shoulder; this will support the elbow and fix it to the side. One short side of the sling will then pass from the knot downwards in front of the hand, and the other short side will be found between the forearm and the trunk. The apex should then be tucked upwards next the body and fixed with safety pins to the front plane of the sling, so that the hand and arm may lie in the fold thus formed for them. With my sling so arranged I could move about with freedom and some degree of comfort, not fearing any jolting, and was even enabled to ride on horseback a week after the injury.

Before the accident I had never slept on the *left* side; after it I was obliged to do so, and now I can sleep on either side at will.

ARTICLE VI.—*A Movable Clot in the Right Auricle.* By NEIL MACLEOD, M.D. Edin.

THE following case illustrates a fatal complication during convalescence from cholera, fortunately of rare occurrence. A man aged 27, just recovering from the effect of a poisoned wound on the thigh, in low general health, was seized with rice-water purging, vomiting, and cramps, at 6 A.M. on the 27th September 1879. At 8 A.M. I injected subcutaneously ¼ of a grain of morphia, relieving the cramps, after which the vomiting ceased and the purging became much less frequent. Collapse increased until noon, when there was hardly any voice, and the pulse for a time could not be felt. Reaction followed, and in the evening was good, morphia being then repeated as the cramps returned (⅛ grain). Ten grains of quinine were injected subcutaneously in 2½-grain doses in the course of the day, as advised by Dr L. S. Little, who saw the patient with me. Next day the pulse was good, but the retentive power of the bowel was lost, a few loose motions being passed in bed during the day. At 9 P.M. the first urine since the disease began was passed, and contained one-quarter albumen. On the third day an eruption appeared all over the body, consisting of tiny red spots, and accompanied by itching, probably produced by the morphia. Improvement continued and the prognosis looked favourable, when, on the fifth day, at 2 P.M., the patient had a convulsion, and immediately became unconscious. At 2.30 P.M. I saw him, when the pulse (before this seizure of fair strength) was so small as to feel a mere thread. The respirations were very deep, and accompanied by respiratory muscular effort so violent as to shake the bed; the alæ nasi at each inspiration were drawn close to the columna, and the lips were blue. Air freely entered the chest, which expanded largely, so that it was evident that there was some interference with the afflux of blood to the lung. The signs and suddenness of the attack pointed to a large embolic plug in the lesser circulation, somewhere near the right side of the heart, and probably in the pulmonary artery, and this I gave as my opinion. The pulse gradually increased in fulness till it became as strong as before consciousness was lost; and at 5 P.M. he could be roused, answered questions quite rationally, but had lost the memory of occurrences before the attack. There was occasional divergent squint, and the motions were again passed in bed. At 9 P.M. that evening a similar attack came on, pulse, respiration, lips, and general condition being the same. From this, however, he never recovered consciousness; the breathing became quieter, the pulse remaining thready. On the sixth day he had quiet delirium, and on the seventh he died at 11 A.M.

On post-mortem examination there were found several small, soft, yellow ante-mortem clots in the left side of the heart. In the right auricle was a very firm, almost cartilaginous, greyish-yellow, movable clot, half as large again as a walnut, lying over the tricuspid orifice.

This clot must have become *suddenly* planted over the valvular orifice, but failed to intercept the whole blood-stream at the time of the first attack. Probably as the heart's force declined, and the blood was propelled with less force against the clot, it may have gradually fallen away from the orifice, at the same time that the pulse was felt to gradually strengthen, until it again suddenly blocked the opening at the time of the second attack, to remain there till death. Had I suspected the true position of the clot, it would have been interesting to have observed if tilting the body would have displaced the clot and allowed the circulation to resume its proper volume. It is plain that in the interval between the first and second attacks the clot must have been able to assume such a position as not to interfere greatly with the circulatory current to the lung.

ARTICLE VII.—*The Examination of Deaf-Mutes.* By Dr KIRK DUNCANSON, Lecturer on Diseases of the Ear, School of Medicine, Edinburgh.

(*Continued from page 507.*)

No.	Name and Birthplace.	Age.	Cause.		Condition			Hearing Power.		Family History and General Observations.
			Con-genital.	Acquired.	Of the Drumhead, E.A.M., and Auricle, etc.	Of the Nose.	Of the Pharynx.	Bone Conduction.	Aerial Conduction.	
73.	A. M., Campsie.	14	Cong.		A large, flat, reflecting post. segment in both M.Ts.	Normal.	Normal.	W. and vib. T.-F. in R. only.	Vib. T.-F. close in front of R. Hears shrill, sharp sound in R.	Has a whistling noise at times in R.
74.	J. L., Dundee.	14	Cong.		M.Ts. deep, dull, opaque. Annulus tympanicus looks hypertrophied. Shrapnell's pouches full.	Normal.	Normal.	W. $\frac{30}{30}$ R. by strong pressure on mast. Vib. T.-F. in R. from mast.	Hears voice well and sharply in R.	Does not learn to speak.
75.	W. T., Orkney.	11	Cong.		M.Ts. normal in appearance. Periphery full. Light spot in R. displaced. L.M.T. not so good as in R.	Normal.	Normal.	Vib. T.-Fs. Sol_3, Ut_4, from bones and teeth, best in R.	Hears shrill, sharp shout in R. Turned quickly to R. when shout given behind him.	Is not a strong boy. Has no voice.
76.	R. D., Glasgow.	8	Cong.		M.Ts. very much driven in; left pressed upon promontory; colour good.	Normal.	Normal.	Vib. T.-F. from bones and teeth, best in R.	Uncertain whether voice is heard.	Teeth bad, peggy.
77.	D. R., Fife.	14	Cong.		M.Ts. driven in. Pouches full.	Normal.	Normal.	Vib. T.-F. best in R. from bones and teeth.	Vib. T.-F. and voice, best in R.	
78.	D. M'D., Perth.	14	Cong.		M.Ts. much driven in, tense, most in L. Light cone broad. Periphery prominent.	Normal.	Normal.	Vib. T.-F. best in L. from bones and teeth.	Vib. T.-F. best in front of L. Does not hear voice.	Repeats vowels with hand on larynx, etc.
79	A. B., Glasgow.	14	Cong.		M.Ts. much driven in, and downwards, from excessive fulness of Shrapnell's pouches.	Normal.	Normal.	Vib. T.-F. best in R. from bones and teeth.	Hears vib. T.-F., bell, and whistle best in R. Hears voice in both, and repeats short words.	
80.	D. D., Glasgow.	9		Acquired.	M.Ts. deep, tense. Shrapnell's pouches full. Light cones small. L.M.T. not so tense as in R.	Normal.	Normal.	Vib. T.-F. from bones and teeth best in R. Hears vib. T.-F. best from mast. in L.	Vib. T.-F., etc., best in R. Hears broad, loud *ah* in both, and repeats. Learns to speak.	Lost hearing from "water of the head" at sixteen months. Peggy teeth.
81.	H. W., Leith.	9	Cong.		M.Ts. very normal-looking, moist, of good lustre and colour, but deep.	Normal.	Normal. Left tonsil large.	W. $\frac{P+}{30}$ in both and from mast. Vib. T.-F. from bones and teeth, best in R.	Hears voice best in R. ear. Vib. T.-F. and whistle best in R.	Has one sister D.-M. Has a peculiar high-pitched voice.

82.	J. M., Stirling.	9		Acquired.	M.Ts. driven in. Shrapnell's pouches full. Light cone diminished. Colour good.	Normal.	Normal.	Vib. T.-F. from teeth best in R., also from mast. in L., and from bones best in R.	Does not hear voice in L., but in R.; repeats short words.	Lost hearing from inflammation of spine at three years of age.
83.	C. M., Arran.	9	Cong.		Slight cerumen in both E.A.Ms. M.Ts. deep, tense.	Normal.	Normal.	Vib. T.-F. from bones and teeth in R. Not heard in L.	Hears loud shouted broad *ah* in R., and repeats through nose.	Two brothers deaf-mutes. Peculiar flat head antero-posteriorly.
84.	J. M., Stornoway.	14	Cong.		M.Ts. very much driven in, but moist and normal in colour and transparency.	Normal.	Normal.	W. $\frac{C}{30}$ in R. Vib. T.-F. in both from bones and teeth.	Vib. T.-F. in front; voice in both, best in R.; turns to R.	Has one brother a deaf-mute.
85.	R. G., Glasgow.	9		Acquired.	Wax in both E.A.Ms. M.Ts. entire, deep. Shrapnell's pouches full. Malleus handle small.	Normal.	Normal.	Vib. T.-F. best in L. from bones, mast., and teeth. W. $\frac{C}{30}$ in L.	Vib. T.-F. best in front of left. Hears vib. T.-F. Ut_4 sounding on its sounding-box well, in front of both ears. Hears vowels and easy words, and repeats them.	Lost his hearing from disease at eleven months. His father was a very old man.
86.	P. F., Linlithgow.	9		Acquired.	Otorrhœa from both. A button from his night-shirt was removed from R. meat. with the aid of Gruber's hook. M.T. perforated, and upper and lower walls of E.M.A. ulcerated from pressure of button. A piece of necrosed bone, part of inner wall of tymp., was firmly fixed in left meat., and removed with syringing and hook. M.T. nearly all gone.	Normal.	Normal.	W. $\frac{C}{30}$ in R. Vib. T.-F. in R. from bones and teeth. Neither heard in L.	Vib. T.-F. in front of R. Hears voice.	Hearing lost at four years of age from scarlatina. Running ears ever since. He learns to speak, and is a sharp, clever boy. He denied having put a button into right ear, although from its compression, being almost oval, its long axis in long axis of meat., and its firm wedging in, it must have required considerable force to insert.
87.	D. S., Airdrie.	8	Cong.		M.Ts. much driven in. Vascular plexus of post. border of malleus handle full, injected. Shrapnell's pouches large; vessels full there also. There is effusion in cavity of tymp.	Mucous membrane soft and spongy.	Large, soft adenoid, tumour in upper part of pharynx.	Vib. T.F. Ut_4 from bones and teeth, best in L.	Repeats broad, loud, deep *ah* with hand on larynx. Does not hear voice.	
88.	R. M., Falkirk.	12		Acquired.	M.Ts. very normal-looking.	Normal.	Normal.	Hears vib. T.-F. on vertex and teeth, best in L.	Vib. T.-F. in front of both, best in left. W. $\frac{P.}{30}$ in L. Hears vowels shouted, and repeats them.	Lost his hearing from a fall when six months old.
89.	J. M., Caithness.	10	Cong.		M.Ts. normal-looking, driven in. Malleus prominent.	Normal.	Tonsils large	Feels vib. T.-F. in stomach, not in ears, from bones and teeth.	Hears no sound.	Has one brother D.-M. Teeth peggy.

EXAMINATION OF DEAF-MUTES.—*Continued.*

No.	Name and Birthplace.	Age.	Cause.		Condition			Hearing Power.		Family Hist-ry and General Observations.
			Congenital.	Acquired.	Of the Drumhead, E.A.M., and Auricle, etc.	Of the Nose.	Of the Pharynx.	Bone Conduction.	Aerial Conduction.	
90.	J. G., Falkirk.	10	Cong.		In the right side the auricle is only partially developed, lies close to, and is mostly incorporated in the integuments of the side of head. An undeveloped cartilage can be felt, and there is merely a puckered depression for E.A.M. Lobe is prominent and large post. and below the depression. The cartilage is less developed in L. ear, more pointed and fawn-like. Depression for meat. in front of cartilage. No such prominent lobe as in R.	Soft mucous membrane.	Soft, spongy.	Hears W. and vib. T.-F. best in R. from bones and teeth.	Hears vib. T.-F. best in front of R. Hears voice.	Face is drawn to left side, does not close right eyelids fully in sleep. Conceals deformity of auricles completely with hair. No operation would benefit the hearing power in this case, as the vib. T.-F. shows. Apparently the appearance might be improved by raising and forming auricles.
91.	W. B., Cranstoun.	10		Acquired.	Otorrhœa from R. Perfor. of. M.T. E.A.M. narrow, deep. L.M.T. cicatrices. E.A.M. narrow, especially at lower part.	Normal.	Normal.	W. and vib. T.-F. from bones and teeth, much the best in R.	Hears high and low notes of voice in R. well, and vib. T.-F. in front of R.	Deafness arose from scarlet fever at nine months. Has one sister deaf-mute.
92.	J. R., Montrose.	11		Acquired.	Very normal-looking.	Normal.	Uvula has a united, double appearance.	Vib. T.-F. from bones and teeth in R best; also W. in R. from mast. and teeth.	Hears low shout in R. Says *a*, *e*, *i*, *o*, *u*, distinctly after they are signed to him.	Lost hearing from gastric fever at two and a half years of age. Slightly peggy teeth.
93.	A. S., Dumfries.	4		Acquired.	M.Ts. pretty normal-looking.	Normal.	Normal.	Hears vib. T.-F. in R. from bones.	Pitch-pipe, A, C. in R. and vib. T.-F. in front of R.	The first child. Had tubercular disease of head and bowels when six months old. Head large, the ant. fontanelle much distended. Could not hold up his head then.
94.	J. S., Perth.	3½		Acquired.	M.Ts. large, flat, lying upon the promontories. Cicatrices in both.	Mucous memb. soft and spongy. Blood springs out of nostrils on violent fits of passion.	Soft. flabby mucous membrane.		Does not hear whistle, bell, nor Politzer's hammer.	His father died of diabetes, a comparatively young man. Mother's family consumptive. Patient suffered from a long-protracted skin affection of head after birth; then pneumonia about nine months of age, with head affection and great prostration, followed by measles, after which there was discharge from both ears. Internal strabismus of both eyes.

24.	I. C., Forfar.	9	Cong.		R.M.T. very normal-looking. Malleus handle distinct. Wax in left ext. aud. meat. M.T. as in R. Mast. and au. normal.	Naso-pharyngeal catarrh.		Hears Politzer's hammer and vib. T.-F. from mast. in L., not in R.	Hears Politzer's hammer in front of L., and vib. T.-F. Mi_3, not in R.	Has a small head. Pupils large. Sees quite well. Noother D.-Ms. in family.
25.	I. M., Pitsligo.	9¼	Cong.		Wax in R.E.M.A.; a little in L.R.M.T., driven in, opaque, white, thickened. Malleus handle looks dim. L.M.T. pretty normal-looking. Aur. and mast. normal.	Normal.	Normal.	Hears both from bones.	Politzer and vib. T.-F. Mi_3 both heard in front of meatus.	Two sisters and one brother D.Ms. Parents healthy.
26.	E. B., Shetland.	9¼	Cong.		Inflamed, bony-looking exostosis in superior posterior quadrant of M.T. M.Ts. white, dull-looking below. Aur. and mast. normal.	Normal.	Normal.	Hears Politzer and vib. T.-F. Mi_2 from bones in both.	Hears in both in front of meat.	Two sisters D.-Ms. Parents healthy.
27.	E. L., Inverness-shire.	9	Cong.		M.Ts. have a coppery lustre, normal-looking. Congestion of both tymps.	Mucous memb. red, congested.	Congested.	Hears vib. T.-F. on mast. of both, best in R.	Hears voice low note in R.	Has some cardiac affection, and has recently recovered from influenza cold.
28.	E. M., Nairnshire.	14	Cong.		M.Ts. small, concave, deep. Wax in L.E.A.M. Aurs. large, heavy.	Normal.	Normal.	Feels vib. T.-F. from teeth in stomach, not in ears.	Does not hear any of the tests.	One sister alive deaf-mute. Two sisters dead were deaf-mutes. Has deaf-mute cousins.
29.	E. D., Berwickshire.	9		Acquired.	Wax in both E.A.Ms.; syringed. M.Ts.deep. Epidermis abraded. Surface reddened.	Catarrh.	Catarrh.	Hears W. $\frac{30}{30}$ from bones and teeth, and vib. T.-F.	W. and vib. T.-F. in front of both. Vib. T.-F. well. Hears loud voice well.	Lost her hearing from measles at two years of age.
30.	B. M., Caithness-shire.	11	Cong.		M.Ts.deep, dull, opaque, atrophic, look never to have vibrated.	Normal.	Normal.	Vib. T-F. on mast. in R. on vertex. Nose, teeth, and mast. in L.	Hears loud low note in L.	Has one sister deaf-mute.
31.	E. H., Kincardineshire.	14	Cong.		Wax in both E.A.Ms.; syringed. M.Ts. deep, dull, opaque.	Normal.	Normal.	W. $\frac{P.}{30}$ and vib. T.-F. in left only, from bones.	Vib. T.-F. in L. Hears high, medium, and low notes in L., and turns quickly to L. for whistle.	Is a very superior girl, and speaks very distinctly.
32.	J. H., Ayrshire.	14	Cong.		M.Ts. deep, dull, opaque, small, flat.	Normal.	Normal.	Vib. T-F. from nose and teeth in L.	Hears low and high note shouted in R.	Has one brother deaf-mute.
33.	B. H., Birthplace not known.	14		Acquired.	M.Ts. very deep and small, membranous-looking.	Left nostril catarrhal.	Normal.	Vib. T.-F. from bones in R.	Vib. T.-F. best in front of R. Hears low and high note (voice) in R.; low note a little in L.	Deafness was caused by some "illness" at one year of age. Subject to attacks of inflammation in eyes.
34.	M. A., Dundee.	14	Cong.		M.T. deep, dull, opaque in R. L. large perforation. Had otorrhœa from L. formerly.	Normal.	Normal.	Feels vib. T.-F. from bones in stomach.	Hears a shrill scream in L.	Her parents and four brothers are deaf-mutes.

EXAMINATION OF DEAF-MUTES.—*Continued.*

No.	Name and Birthplace.	Age.	Cause.		Condition			Hearing power.		Family History and General Observations.
			Congenital.	Acquired.	Of the Drumhead, E.A.M., and Auricle, etc.	Of the Nose.	Of the Pharynx.	Bone Conduction.	Aerial Conduction.	
35.	H. B., Dumfriesshire.	8	Cong.		M.Ts. deep, dull, opaque, reddish-looking. Catarrh of tympana.	Normal.	Normal.	Vib. T.-F. best from teeth in R.	Hears shouting in R., and vib. T.-F. Sol_3.	Is a rickety child, with lateral spinal curvature.
36.	E. M'C., Ayrshire.	10		From disease in her 3rd year.	M.Ts. dull, deep, opaque. Catarrh of Eust. tube and tymp.	Catarrhal.	Catarrhal.	Vib. T.-F. from bones well, best in R.	Vib. T.-F. in front of R.; a little in L. $W.\frac{C}{30}$ in R. Hears voice low note in R. well; a little in L.	Has one sister deaf-mute. Suffers from heart disease; a loud pre-systolic murmur.
37.	J. A., Glasgow.	11	Cong.		M.Ts. deep, translucent. Long process of incus and promontory seen in both ears.	Catarrh.	Catarrh.	W. and vib. T.-F. best in R., from mast. and teeth.	Hears low note in R.	Had one brother deaf-mute (dead).
38.	I. T., Lanarkshire.	10		Fr. gastric fever at 3½ years.	R.M.T. deep, dull, opaque. L. otorrhœa, cicatricial. M.T. inflamed.			W. and vib. T.-F. from teeth and mast., best in R.	Vib. T.-F. in front of R. Voice low note in R.	No relations deaf-mutes.
39.	E. E., Stirlingshire.	12		Born deaf on left side, (?) fr. disease in R.	M.Ts. deep, dull, opaque in L.; more transparent in R.	Catarrh.	Her throat used to trouble her much.	W. from teeth and mast. best in R., a little in L. Vib. T.-F. from bones of head best in R., a little in L.	Vib. T.-F. very well in R.; not so well in L. Hears voice very well in R. Hears a brass band playing outside of large room in the corridor.	Has one sister D.M. Eyesight deficient. Scaly eruption on face. Learns to speak.
40	S. H., Cumberland.	9	Cong.		Large flakes of epidermis and wax in both E.A.Ms., most in L. M.Ts. very deep, good lustre. Eczema (slight) of L. auricle.			Vib. T.-F. from bones of head best in L.	Hears voice high and low notes best in L.; a little in R. Vib. T.-F. in L.	Epidermis and wax removed by syringe and tepid water with alkali dissolved in it, the one day, and exam. made the day following.
41.	E. M'C., Perthshire.	13	Cong.		Dark cerumen in both E.A.Ms. M.Ts. deep, dull, opaque, flat, and no distinct markings.	Catarrh.	Catarrh.	Vib. T.-F. from bones of head best in L. Says it goes down to her stomach, putting her hand over region of solar plexus.	Hears voice low note in L. Vib. T.-F. in L.	Has one sister and a grand-uncle D.-Ms.

42.	J. B., Forfarshire.	14	Cong.		M.Ts. pretty normal-looking.			Vib. T.-F. from bones and teeth best in L.; a little in R.	Vib. T.-F. in front of L. best. Medium note loudly shouted in L.	Has one sister very dull of hearing.
43.	M. C., London.	9	Cong.		Gritty wax in L.E.A.M. M.Ts. deep, opaque, normal markings.			Vib. T.-F. best in R. from bones.	Vib. T.-F. best in R. in front. Hears voice very readily.	Her parents, one sister, and one brother are deaf-mutes. Hordeolum of right lower eyelid.
44.	J. J., Richmond, Surrey.	9		Fr. falling into water when 20 months old.	M.Ts. pretty normal. Shrapnell's pouches full, spotted appearance.		Tonsils large.	Vib. T.-F. from bones of head equally in both.	Vib. T.-F. in front of both. Voice high and low note loud in both.	Internal strabismus of R. Myopia.
45.	E. C., Fife.	13	Cong.		Wax in both E.A.Ms. M.Ts. very normal-looking, especially R.			Vib. T.-F. equally in both from bones of head, and from table 2 ft. from her.	Vib. T.-F. equally in front of both, very close.	Two other children of family were deaf-mutes, now dead.
46.	J. S., Dumbartonshire.	12	Cong.		R.M.T. small, central, not the size of a pin-head perforation just below umbo., from which there exudes at times a sero-purulent fluid. R. and L. M.Ts. pretty normal otherwise.			Vib. T.-F. from bones of head equally in both.	Hears a loud shout in R. ear.	Has two brothers deaf-mutes.
47.	C. C., Perthshire.	12		From illness when about 1 year old.	M.Ts. very normal-looking, most so in R.		Uvula pendulous.	Hears vib. T.-F. Ut_3 from teeth alone, in both ears.	Heard a deep, low note roared in R.	
48.	M. A., Lanarkshire.	10		Lost her hearing about end of her 1st year.	M.Ts. loose, puckered appearance of both.			Vib. T.-F. from bones of head in both.	Hears vib. T.-F. in front of both. Voice, hears high, medium, and low note very well.	She learns to speak.
49.	E. Y., Linlithgowshire.	11		Lost her hearing when 18 months old.	M.Ts. normal markings and size of malleus handle, but much drawn in. Tragus notched.			W. and vib. T.-F. from bones of head.	Hears vib. T.-F. 3 in. in front of R., 1 in. in front of L. Hears voice pretty well in both alike.	
50.	M. D., Forfarshire.	14		From scarlet fever in her 5th year.	M.Ts. deep, cicatricial, entire; an adventitious partial M.T. in front in R., with an ulcer on it causing discharge.			Feels vib. T.-F. on teeth alone.	Hears no sound, apparently.	
51.	A. H., Dundee.	9		From convulsive fits from teething when 12 months old.	M.Ts. small, deep, atrophic-looking. Lustre good.			Vib. T.-F. from bones of head in R.	Hears voice, high note, shouted in R.	

ARTICLE VIII.—*Medical Notes and Statistics of the British Expedition to Egypt in* 1801. By W. T. BLACK, F.R.C.S.E.

(Read before the Medico-Chirurgical Society of Edinburgh, 6th November 1882.)

THE military occurrences of the campaign in Egypt in 1801, against the French army under General Menou, by the British forces under Generals Hutchinson and Baird, have been fully recorded by many authors. The medical history of it has also been well made out by several medical officers who have accompanied the troops or visited the country then opened up to travellers.

Sir James M'Grigor's account, called *Medical Sketches in Egypt in* 1801, though a small volume, is nevertheless a model of its kind, containing the general history of the expedition of Sir D. Baird, a diary of medical events, statistics, and a record of cases.

Dr Wittman, of the Royal Artillery, wrote a book on the proceedings of the Turkish army in Syria and Egypt, under the Grand Vizier, in 1800-1801, made out on much the same scheme as Sir Jas. M'Grigor's, but it contains, besides statistics, very good meteorological records. Ample medical information respecting the British forces may be got from Col. Sir Robert Wilson's, Dr Maclean's, of the H.E.I.C., Dr Veitch's, and other works, but there does not appear to be any account given by a medical officer of this part of the expedition himself. Regarding the general climatal and medical conditions of Egypt at that period plenty of information may be obtained from the works of the French doctors and *savans* who accompanied the army then in occupation of the country.

A mine of observations is contained in the great Imperial French work called *Description de l'Egypte, Etat Moderne*, Paris, 1810-12, in which Baron Larrey, Drs Desgenettes, Brouant, Joumard, Rouyer, and others have written treatises on various medical subjects. Another great work, richly illustrated, is by Mons. Vivant Denon, entitled *Voyage dans la Basse et la Haute Egypte*, 1798-99, which also contains some medical references to the climate and diseases of Egypt.

This campaign was organized and conducted on a much more extensive scale than is generally thought, as British forces were summoned from Madras and Bombay, and from the Cape of Good Hope, as well as from England, for many months beforehand. The former divisions all rendezvoused at Mocha, in the Red Sea, and landed at Cosseir, and thence marched across the intervening desert to Kenneh and sailed down the Nile river to join the other section near Cairo in August 1801, which had landed at Suez and marched across the desert there in June beforehand.

The British forces from home were denominated the "Secret Expedition," and left in armed convoy about 3rd Nov. 1800, and did not reach Egypt for four months afterwards, 1st March 1801, having been cruising about the Mediterranean Sea, collecting more troops at Minorca, Malta, and Marmorice, before going on.

A full record of its proceedings will be found in a volume by Lieut. A. Anderson, 40th Regiment, published in 1802, with illustrations.

These protracted voyages and marchings were the cause of the accumulation of large sick lists in the forces before entering on active service, and so Sir R. Abercromby found that he was encumbered with 1000 sick on landing at Aboukir Bay, 8th March 1801, calculated at 6 per cent. of his strength, or 310 per 1000 per annum, at that date.

The route taken by this British force under General Hutchinson, after the battle of Alexandria, 21st March 1801, lay along the west side of the Rosetta branch of the Nile, with a flank section under Col. Stewart marching along the east bank; and they had baggage boats and store flotilla sailing along between them on the river.

It was on this march that the real sickness began to get serious, and they had to found a large hospital at the Delta Point, or the Barrage now, and leave the sick there, numbering about 1000 men. They lost 30 men by drowning in the Nile on the passage up, and orders had to be issued to stop all bathing in the river during the heats of the midday.

The auxiliary Turkish army came into Egypt from El Arish in March 1801, and crossed the Lakes at Kantara, and arrived at Belbeis on 11th May 1801, whence they proceeded to join the English army on the Nile. Dr Wittman's description of this march is very graphic, and recounts the ravages of plague, ophthalmia, dysentery, and other diseases, and he appears to have been fully alive to the unhealthy state of the army and its obvious causes. He seems to have made successful appeals to the Grand Vizier to have things sanitarily mended in camp as they went on, to have localized indiscriminate deposition of excreta, and to have brought about the *bona fide* burial of carcases of animals and bodies of men died of diseases. A communication was effected with Col. Stewart's column on the Damietta branch of the Nile at Bennar-el-Assad, and, further on, up the river at Kalyub, with the main body near the point of the Delta, and then at last at Shubra, on 16th June 1801, before Cairo. There were, therefore, four routes of conveyance of the allied forces towards their junction at Cairo, two by the lower branches of the Nile, one by the desert from Suez, and one by the upper Nile. The whole of the sick with the army on the march, and those remaining at the hospital camp at the Delta Point, were sent down to Rosetta in boats previous to the army returning to the cantonment at El Hamed, near that place, on the banks of the Nile. All the allied forces arrived in good time at their destinations before the flooding of the Delta had formed. The capitulation of Cairo, 27th June 1801, was then soon effected. The French army evacuated the city, and General Hutchinson returned with them to the camp at El Hamed, near Rosetta, by the same route along the Nile river, arriving about 28th July 1801.

The main body of the Indian army did not reach Cairo before 9th Aug. 1801 from Kenneh, in Upper Egypt, after the British and French had left, but they remained there till 28th Aug., when it came down the Nile in boats to Rosetta and camped there, to join the British force. When camped at Gizeh, near Cairo, they suffered much from ophthalmia and dysentery, etc., and were very glad of the change to Alexandria, which renovation, also, the British troops experienced just before them. They stated that the difference of climate was most agreeable. The thermometer sank 12° lower, and the sea breezes were freshening to their sensations after the hot winds and oppressiveness of Cairo.

The Turkish army remained at Cairo thenceforward chiefly, except detachments with the British force.

The French army of Cairo were sent to France in ships, in part from near Rosetta about 1st to 10th Aug., and the second portion from Aboukir from 10th to 20th Sept., after their surrender of Alexandria on 31st Aug. 1801.

The British army began to re-embark about 10th Sept., also at Aboukir, and in a few days had all left Egypt, when the Indian army returned to Cairo and remained there for a year, till August 1802, when they returned to India by the routes they came by.

The transport ships were then much inferior in size and accommodation than they are in the present day, but they were in greater number in consequence. It required 140 ships for carriage of men, horses, and stores, and 51 ships of war to convoy the British army safely to Aboukir Bay from home. The highest number of troops carried was 628 of the Guards in H.M.S. Delft, and the lowest 150 of the 42nd regiment in the Minotaur. The troops from India and the Cape seem to have voyaged in better health than those from home, as is even the case now, as the 61st regiment landed at Cosseir on 10th July from the Cape without a sick man on board.

But little information seems afforded respecting the victualling of the armies, but both Wilson and Anderson mention that they had rations of salt pork, biscuit, and bread served out to them, and that there was plenty of supplies of sheep, goats, fowls, and eggs to be got in the native markets at the towns the troops passed through. The fresh meat derived from the country does not seem to have been considered good, and could not be relied on, especially as it was then summer weather. A ration of rum was also issued when available, and at Cairo the general officer presented a puncheon of Sicilian wine to the officers on the capitulation of Cairo being effected so successfully. Col. Robert Wilson, however, emphatically states that the men were perfectly able to undertake arduous work and marches when deprived of any stimulant, and were also then so well conducted. The French troops, when under

British convoy, were displeased at the crude rations of salt pork, biscuit, and Sicilian wine, and wanted the luxuries they had got at Cairo.

Regarding the conveyance of the wounded little mention is made, except by Baron Larrey, who gives a description and illustration of an ambulance volante ou Legère, for camels, similar to the modern cacolet or mule litter.

Climate of the Delta of Egypt in 1800-1801.—Ample materials exist in the works on the campaign in Egypt for drawing up a scheme of the climate of those years, considering the paucity and kind of instruments then used by scientists.

The chief elements influencing the climate were the heat, winds, and the Nile, the two first appertaining to all North Africa, but the latter specializing Egypt over the other coast lands, and rendering it more tropical and less healthy. The highest temperatures prevailed in May, June, July, and August, for 14 days from 100° to 110° F.; the lowest were in Dec., Jan., and Feb., for 10 days from 40° to 50° F., while that of the intermediate months rises and falls from these points.

Temperatures of 60°–70° F. appeared on the greatest number of days, 95; those of 70°–80° were observed on 85 days; while those of 50°–60° F. were seen on 38 days.

During the march of the Indian force across the desert from Cosseir to Kenneh, on the Nile, the thermometer rose during the day to 110°–115° in July 1801, obliging the men to move only by night.

On May 23rd, 1801, there occurred a remarkably severe sirocco wind or khamseen, experienced by the British army in camp at Bischamps, on the Nile, when the thermometer rose to 120° in the shade; at Belbeis, where the Turkish army was, it rose to 130°, and at our camp at Alexandria, on the coast, to 105°.

The chief winds prevailed from the N.W., called the Etesians or Mediterranean monsoons, during the summer months of May, June, July, August, and September, for 80 days, but during the whole year for 132 days. The chief winds in the winter months were, in November, N.W. 14 days, in December, N. 9·7 days, in January, N.W. 8 days, and in February 10·7 days.

The special hot winds, or khamseens, winds from the S.W., prevailed for 20 days, and from the S.E. for 6 days, in April and May; and calms were common for 28 days in September, October, November, and December, January, February, and March—in fact, in every month except the summer months.

The inundations of the Nile rose to their highest point, 31·3·10 Paris feet, in the middle of October, and sank to their lowest point of 5·8·4 Paris feet in the middle of June, rendering the climate semi-tropical in the autumn and semi-temperate in the spring.

The rainfall was estimated by days of rain, and the total of these was 34 during the winter months only, when the greatest number of wet days was 12 days in February and 10 days for March, and the least being 1 day for April and 1 day for December.

The barometer did not seem to have been affected by the change of seasons or weather, as it did not vary more than half an inch from the max. of 30·37 in. in January to the min. of 29·84 in. in May, notwithstanding the moisture and aridity of each of these months respectively.

This may be conjectured to be due to the country lying within the range of the latitudes 30°–40° of the calms of Cancer, where the height of the mercury rules high, and at the same time is steady.

The seasons of the year have been very strikingly rendered by Baron Larrey in his treatise on *Classification des Saisons de l'Egypte*, which divides them into four, viz.:—1st, Fertile, comprising December, January, and February, which are salubrious, the time of harvest, winds easterly. 2nd, Morbide, comprising March, April, May; it is pernicious to health, khamseen winds prevail, exhalations from cemeteries, plagues, yellow fevers, gangrenes, and ataxic diseases; Nile at its lowest. 3rd, Etesian, June, July, August; Mediterranean monsoon winds; healthy season, and favourable for marching of European troops. 4th, Humide, September, October, November; Nile at its highest, and air moist, and lands wet; ophthalmias prevail, catarrhs, diarrhœas, fevers; winds westerly.

This great French work contains an extract from the necrological registers of the city of Cairo, kept by the Arab authorities, as far back as the year 1100, if not much farther still, containing the number of deaths of men, women, and children noted every day.

From these tables it was available to calculate the rates per 1000 per annum for every month of the year 1800, and the highest rate of 79·2 was found in April, when the plague raged, and the lowest was 18·0 in July, the Etesian season, and the mean for the whole year 1800 was only 33 per 1000 per annum for all ages and sexes together. We may venture to propose, therefore, that the local climate of Cairo is naturally, and under ordinary seasons, salubrious, but that it has been for ages, and is still at present, polluted by its own inhabitants, and by their insanitary modes of living and bad treatment of the land.

Medical Statistics.—The number of the forces engaged in the military operations of 1801 against the French varied considerably at each event, but were in the aggregate larger than generally considered present in Egypt at that time.

The French army of occupation is estimated in the gross at 32,180, with 768 civilians attached. The British army at first landed 19,414 at Aboukir Bay. The Indian and Cape force is put down at 5976 men, with 1153 civilian attendants. The Turkish army was believed to be 25,000 men before Cairo, 10th June 1801.

The British received a reinforcement of 1800 men, in July 1801, from England, for the siege of Alexandria in August.

There were five principal actions fought—the landing at Aboukir Bay, 8th March 1801; the battle of Alexandria, 21st March 1801;

the taking of Rosetta, 19th April 1801; the affair at Rahmenyeh, 9th May 1801; and the siege of Alexandria, 17th August 1801.

The number of medical officers attached may also be approximately estimated at 68–70 for the British force, with 20 for the staff and 14 for the Indian forces, or about 102–104 for 26,000 men, or 1 officer for about 250 men all round.

The French army had made full provision for their medical wants, had eminent men on its staff, as Baron Larrey and Drs Desgenettes and Assalini, and their Grand Hospital at Cairo was inspected by our medical officers and found to be of a first-class description.

The Turkish army seems to have been destitute of any national medical staff or hygienic regulations, but Dr Wittmann, surgeon, Royal Artillery, attached to the European escort of the Grand Vizier, gave his services to the army as sanitary adviser.

Statement of the Strength of the British army in Camp four miles from Alexandria, 30th March 1801, *summarized.*—Infantry: Guards, 5 brigades, and reserves, 15,463; officers and non-commissioned officers, 1948; sick present, 3082; sick absent, 1182. Cavalry: 4 regiments, officers and men, 1288; horses, 472; sick men, 321; sick horses, 63. Royal Artillery: officers and men, 715; horses, 142; sick men, 116; sick horses, 52.

General Statement of the Indian Contingent at Suez and Cosseir, 8th June 1801.—British regiments, 6, and Royal Artillery, 2838; East India Company, 3 Native regiments and Pioneers, 1940; Artillery, 448; regimental officers and staff officers, 267; attendants, civilians, and Lascars, 1630.

The casualties in these forces will now be summarized.

The British army lost in killed during the 6 months' campaign 45 officers and non-commissioned officers (or 22 + 23), which will give 2·05 per cent. to strength, or 41 per 1000 per annum. There were also 335 of these wounded in various actions, which will give a percentage of 15 to strength, and of 314 per 1000 per annum.

Altogether there were 505 rank and file killed during this period, giving a rate of 3 per 100 to strength and 59 per 1000 per annum, and 2723 wounded, with rates of 16 per 100 and 317 per 1000 per annum.

The proportions between killed and wounded in officers and non-commissioned officers will be 1 to 7·7, and between rank and file killed and wounded 1 to 5·3, so that that amount of loss to each class so combined comes to near about the same ratio to strength.

The British army in camp near Alexandria on 30th March 1801 is stated to have had a sick list of 3082 rank and file present, and of 1182 rank and file absent, which latter term is somewhat ambiguous, and probably may have included deaths from diseases as well as invalids, as these are not noticed otherwise for that period.

This sick list includes those of the previous voyages and of the battle of Alexandria, or about 100 days, or nearly 3 months, and amounts to 20 per cent. of the force at date and a rate of 730 per 1000 per annum, which would lead one to conjecture that the army would have become unfit in 16 months. The ratio of the sick absent amount to 7 per cent. at date and 255 per 1000 per annum for the period of 100 days, which would accord with a death and invalid rate as conjectured under the circumstances of the campaign.

At the same camp the cavalry had 121 sick men, giving ratios of 10·7 per cent. at date and 380 per 1000 per annum.

The artillery had a sick list of 116 men, giving ratios of 18 per cent. at date and 620 per 1000 per annum.

These numbers of sick are not stated to be admissions from day to day, but the accumulation of sick for 100 days at the date 30th March, and are a striking contrast to the 46 per 1000 per annum constantly sick at home in 1880, or the 69 per 1000 per annum constantly sick in India in 1880.

The flank march to Cairo in May and June took up 54 days, or about 8 weeks, by bank and river, and cost the army a loss in sickness of 1122 men out of 4412 men, or at rates of 25 per cent. at date 16th June, and of 1745 per 1000 per annum—very heavy losses, which occasioned the hurrying up of a reinforcement from the camp near Alexandria of 904 men, and the formation of a base hospital camp at the point of the Delta on 6th June.

This hospital camp was in occupation about 5 weeks, or 36 days, and had at first 838 sick in tents, of whom, before it broke up, 73 men died, or 8·7 per cent., and 311 recovered, or 37 per cent., and the rest probably rejoined the army on its return, or 54·3, as convalescents or unfits.

On the investment of Cairo, 16th June to 14th July, or about a month, a camp was formed at Gizeh, in which were 346 sick, representing ratios of 8·3 per cent. at date and 990 per 1000 per annum for the period, which supposes that the force would have become totally unfit in a year nearly. With respect, next, to the Indian army, statements of sick are found when in camp at El Hamed, near Rosetta, 5th October 1801, after its junction with the British army, and after the capitulation of Alexandria and the work of the siege. It had lost 262 men by deaths and invalids out of a force of 6433, giving ratios of 4·1 per cent. and 124 per 1000 per annum, which may be contrasted with ratio of 54 per 1000 per annum for 1880, in the present command in India for both classes. Again, the total sick at this date amounted to 1069, with a force of 5019 rank and file of both European and native regiments, which will give ratios of 21 per cent., and 647 per 1000 per annum for the four months the army had been in Egypt, which may be compared with the rates in 1880 of 69 per 1000 constantly sick in India.

When, however, the sick of the two classes of regiments are separated from each other, and their number and ratios, a different result appears, all in favour of the native Indian regiments. The European regiments had 787 sick at camp at this date, with force of 2753 men, giving rates of 28 per cent. and 858 men sick per 1000 per annum, while the native regiments had 282 men sick in a force of 2266 in camp, giving ratios of 12 per cent. at date and 375 men sick per 1000 per annum.

Sir James M'Grigor gives information still further respecting the Indian contingent, even till their re-embarkation, and it will there be seen that the native regiments, with a strength of 4127, had lost 391 by death and 41 by invalids during 16 months till August 1802, giving ratios of 9 per cent. and 70 per 1000 per annum, and 1 per cent. and 8 per 1000 per annum.

The European regiments numbered 3759 men altogether, and were in Egypt over 10 months, till June 1802, and they lost 309 men by death, representing ratios of 8 per cent. and 98 per 1000 per annum, and sent away 117 invalids, giving rates of 3 per cent. and 37 per 1000 per annum, which may be compared with the rates of 1880 in India of 24 per 1000 died and of 29 per 1000 invalided home.

The French army, on the occasion of the capitulation of Cairo, had in garrison there, it is estimated, 13,672 men, of which 1800 were returned sick in hospital, 27th June, representing ratios of 13 per cent. and 264 per 1000 per annum for 6 months, or since the arrival of the English navy and army.

The rates, it will be seen, are less than those for the British and Indian armies, probably owing to the French having been quartered in barracks and their sick treated in hospitals.

However this may be, they still maintained low rates of sick, as when this garrison marched and sailed down the Nile to Rosetta, to re-embark for France, it had only 500 sick men for the month to 28th July, giving ratios of 3 per cent. and 430 per 1000 per annum.

The entire French army of 32,180 is stated to have lost by deaths from diseases, in 6 months' campaigning against the British, 1500 men; giving rates of 4 per cent., 90 per 1000 per annum, which is less than the rates for the Indian army even.

It is stated also to have lost by killed and died of wounds 3000 men, which will give 9 per cent. to strength of 32,180, and 186 per 1000 per annum, which are lower rates than for the British army considerably.

The French army in camp at Alexandria, 1st September 1801, had 1627 men sick out of a force of 10,528, which represents a rate of 15 per cent. sick, which is less than the rates for the British or Indian armies again of 20 per cent. and 21 per cent. respectively.

With reference to the medical condition of the Turkish army, Dr Wittman, R.A., furnishes ample materials for perusal in his account of its progress through Syria and Egypt to join the British forces. Materials for statistics, however, are not given of that kind as used at present, but he states that it lost during 8 months up to 12th January 1801, 8000 men out of 16,000, but whether by deaths or invalids and disasters is not stated.

This loss, however, amounts to 50 per cent. at date, 750 per 1000 per annum, thus inferring that the force would have become unfit for service in 15 months.

The British escort with the Grand Vizier lost by deaths by disease 25 men out of 76 in 2¾ years' campaigning, which gives rates of 32 per cent. and 119 per 1000 per annum, high figures even for European troops in India, of 24 per 1000 in 1880.

At the action at El Hanka against the French the Turks lost 30 killed and 80 wounded out of 9000 men engaged, giving 0·3 per cent. killed and 0·9 per cent. wounded.

The necrological records kept at Cairo for the year 1800 will enable us to ascertain the rates of mortality in the civil population of that place, and to compare them with the high rates prevailing in the troops at the time campaigning in the Delta of Egypt.

The total deaths were 8666, and the population 260,000 as estimated then, and of these there were 4824 children, 2144 females, and 1608 males that died of disease. These figures will give rates of 33 per 1000 for the total, 18·5 for the children, 8·2 for the females, and 6·2 per 1000 per annum for the males, all rather low rates for Eastern cities, but showing, however, the inherent healthiness of the locality in spite of insanitary conditions.

The diseases prevalent in the armies campaigning in Egypt in 1801 are dwelt upon by Wilson, M'Grigor, Wittman, and the French authors very fully, but few of them deal with numbers of cases or deaths resulting therefrom.

Sir J. M'Grigor, however, furnishes some in his "Sketches," and from these it appears that the natives in the Indian army lost 391 by deaths from disease, and 41 invalids, in a force of 4127, giving rates of 9·4 per cent. and 70 per 1000 per annum for 16 months they were in Egypt.

The European regiments lost 309 by deaths from disease, and 117 by invalids, out of a gross force of 3759, giving rates of 8·2 per cent. and 98 per 1000 per annum for the 10 months they were in Egypt.

The plague then prevailed in Egypt, and carried off 127 of the Indian natives, but only 38 of the Europeans, or 32 per cent. and 12 per cent. of their respective total deaths.

The endemic fevers of the country, malarious and enteric, carried off 92 native soldiers, but only 18 European ones, giving rates of 23 per cent. and 6 per cent. of their total deaths.

This increased existence of these diseases amongst the native troops in the Delta probably was due to their lying in less salubrious camps or quarters than the European soldiers, and their greater opportunities of association with the natives of the towns and villages of Egypt.

On the other hand, we find that diseases of the liver prevailed amongst the natives less, by only 12 deaths to 64 in the European troops, or at rates of 3 per cent. and 21 per cent. of their respective totals.

Also it seemed dysentery prevailed less in the native forces, by 47 deaths to 148 deaths in the European soldiers, giving rates of 12 per cent. and 48 per cent. to their respective total deaths.

It may be supposed that this difference in hepatic cases may have been due to the habit of the British soldier to indulge in intoxicating drinks more than the native soldier, and in the latter disease to the inferior and unsuitable rations he had frequently to take instead of the usual wholesome one allotted to him at home, as well as to the bad water he was obliged to drink in camp or on march.

Diseases of the lungs were few, and occasioned only 6 deaths in the native regiments and 4 deaths in the British regiments, giving rates of 1·7 per cent. and 1·3 per cent. to their totals.

Deaths by fits or epilepsy were due in 2 Europeans, but not native, probably occasioned by exposure to the sun.

All other diseases seemed not enumerated at all, and amounted to 93 in the natives and 41 in the Europeans, or at rates of 23 per cent. and 13 per cent. to their totals.

Dr Wittman classes his 25 deaths by disease in the European escort in much the same way, and of these 2 died from plague, or 8 per cent. of the total; 12 from fevers, or 48 per cent.; 1 from hepatic, or 4 per cent.; 4 from dysentery, or 16 per cent.; 2 from pulmonic, or 8 per cent.; 1 from epilepsy, or 4 per cent.; and 3 from other diseases, or 12 per cent.

The chief deaths were from fevers, probably owing to unhealthy sites of camps, and from dysentery from bad food and water; and the total deaths amounted to a rate of 32 per cent. to force of 76, and 119 per 1000 per annum, for 33 months in camp or march.

Concerning the British force there are but few statistics of deaths by disease, but Inspector-General Dr Young states that 380 cases of the plague occurred out of a gross force of 17,170 men in 136 days, giving rates of 2 per cent. and 60 per 1000 per annum.

Of these 173 died, or 45 per cent.; and 207 recovered, or 55 per cent. During their march to Cairo from El Hamed there were 50 cases of dysentery daily in a force of 4412, or 1·11 per cent. of the troops affected for 54 days.

Ophthalmia in its various forms seems to have attacked the troops of the English army, and about 160 became totally blind, and about 200 lost the use of but one eye, a total of 360 out of a force of 19,414 altogether, or 1·8 per cent. This disease and its results also affected the French army still more; but it may be stated, in explanation of the difference, that the British figures represented ultimate results, whilst the French figures were those of first cases. They stated that they had had 20,000 men affected out of a force of 32,000 during two years in Egypt, at rates of 66 per cent. or 312 per 1000 per annum.

During the investment of Alexandria after 21st March 1801, more than 3000 men passed into the Hospitals in the town for 2½ months, which will give a rate of about 800 per 1000 per annum admissions for that garrison for that epidemic of ophthalmia.

Blindness from various affections of the eyes was extremely common then amongst the natives of Egypt, as many as 600,000 people, probably children, out of a gross population of 3,000,000, or 20 per cent., being affected.

In Upper Egypt, General Desaix stated his command had 800 men suffering from blindness during a three days' march out of a force of 3000 men; but this probably was a form of amaurosis or sun-blindness, and not conjunctivitis.

The French army seemed to have suffered more from diseases of the eyes than the other armies, and many of the men are said to have become blind after leaving Egypt, even on board ship and after landing in France.

Tetanus is not enumerated in the British statistics, but Baron Larrey mentions having had 35 fatal cases in his wounded after five separate actions in Egypt.

Of specific diseases affecting the Turkish army itself no figures appear except for plague, which seemed to have affected 2500 men of a force of 4000 men in camp at El Arish on the route from Syria to Egypt in March 1801.

Dr Parkes states, in his work on Hygiene, that plague has ceased since 1843, after Mehemet Ali had improved the sanitary state of Cairo and other places, especially by removing most of the rubbish mounds about the south and east of the city.

These medical statistics, finally, may lead one to infer that the Indian and French armies had been more healthy than the British and Turkish, and that campaigning during the summer and autumn led to much sickness in the troops. The Indian army had the advantage of longer residence in the country, both winter and summer, and the possession of superior commissariat and transport arrangements, and previous acclimatization in a hot country.

Sir James M'Grigor states that the Indian army left Egypt in August 1802, for the return to Bombay, in the highest state of efficiency and health for the usual services required of it in hot countries.

The French army had the advantage also of longer residence in the country, and consequent acclimatization, and their commissariat and medical departments in full working order, which even did not then exist in the British army list, and did not appear as fixed establishments till 1818. It may therefore be inferred that if the British army had stayed in Egypt over the succeeding winter it would not have kept up its heavy sick-list, and that it would have recovered its health, as frequently is said to occur in India, where new stations are almost always unhealthy at first occupation, but improve afterwards so as to become in good sanitary condition.

Part Second.

REVIEWS.

Chapters in the History of the Insane in the British Isles. By DANIEL HACK TUKE, M.D., F.R.C.P., President of the Medico-Psychological Association, etc. London: 1882.

IT would be both tiresome and superfluous to enlarge upon the benefit gained by the pathologist and the physician in studying the history of the diseases of past times and the progress of the healing art. The history of insanity can well be treated as a narrative apart, as the insane form a separate body politic, a species of state within the state, governed, indeed, by the sane, but after a fashion of its own, it being the very peculiarity of the insane that they do not recognise the laws of the country they live in, and are not held amenable to its penal code. Dr Hack Tuke, who is one of the most learned writers in our profession, has in a previous volume collected together what is known of insanity amongst the ancients; now he gives us the result of his inquiries about the treatment of the insane from the earliest times in our own islands. The first chapter is full of quaint antiquarian lore. Dr Tuke quotes largely from the work of an unknown author entitled, *Leechdoms, Wort-cunning, and Starcraft of Early England.* The Saxon leeches had a faith in their simple remedies which must have been able to survive unfavourable experience. For a lunatic they were told to take clove-wort and wreath it with a red thread about the man's neck when the moon was on the wane. "Soon will he be healed." Even more thoroughgoing is the following:—"For lunacy, if a man layeth this wort peony over the lunatic, as he lies soon he upheaveth himself hole, and if he have this wort with him, the disease never again approaches him." Mandrake was used for witlessness, and periwinkle for demoniacal possession. Wolf's flesh well dressed and sodden was to be eaten by a man troubled with hallucinations. The most astonishing thing about these whimsical prescriptions is the calm promise, at the end, of a perfect cure.

Lunatics went through strange caprices of treatment, owing to the unsettled views of their sane brethren. Some who were thought to be under demoniacal possession were handed over to the clergy to be exorcised; others were burnt as enchanters or witches; while those recognised as simply insane, when not neglected, were often subjected to a whimsical variety of maltreatment.

Beating was the favourite remedy. Dr Tuke tells us that it was a good plea, if a man complained that he was unlawfully beaten or imprisoned, to urge that the plaintiff was a lunatic. It is too true that Sir Thomas More, when Lord Chancellor, caused a man, who had fallen into frantic heresies and had been in Bedlam, to be tied to a tree and severely beaten. This is avowed in More's apology, and a cure was claimed under the treatment, which the author of *Utopia* seems to think of established efficacy. Sir Thomas More, however, denies beating any one for heresy save a child in his own household and the frenetic heretic from Bedlam. The accusation quoted from Burnet by Dr Tuke about the "tree of troth" in More's garden, where Lutherans were beaten, seems thus to be incorrect. There was a picturesque variety of treatment during the good but rude old times. Insane people were submerged in lakes or pools, or tied to crosses, or shut up in chapels all night, or bled to syncope, or forced to swallow violent purgatives or decoctions of plants to which imaginary virtues were assigned. As Dr Tuke remarks, the lunatic of to-day may well exclaim,

> "The good of ancient times let others state ;
> I think it lucky I was born so late ;"

though, perhaps, ancient times might reply, that with them fewer men were born insane, which was better still.

Dr Tuke warmly resents the cruelty and neglect with which the insane were treated up to very recent times, and for such feelings he assuredly deserves no blame. Nevertheless, in considering the deeds of our fathers—and it is to be hoped we are all descended from sane ancestors—we should not forget the nature of the times in which they lived. Their treatment of the insane was no worse than their treatment of the sane. What hospitals existed were poor, bare, and rough. If lunatics were in chains, so were untried captives. The prisons were dungeons which rats would not live in; nor were people willing even to bear the costs of such cheap lodging and such food "as captives' tears have moistened many a thousand years." When a man appeared two or three times as a vagrant or a thief, he was hanged without mercy. We may be sure the course of many a case of general paralysis or other incipient mental derangement was cut short by the hangman. The whole structure of society was stern and harsh. The number of lunatics kept in Bethlem and such places was very few. About the reign of Queen Elizabeth there were only twenty there, probably madmen of exceptional violence. Bethlem did not then possess anything like the magnificent revenue which it now enjoys, and public wealth had not so increased as to allow the country to include so many under the name of lunatics, and to pay so liberally for their maintenance. In one sense, no doubt, it was men like William Tuke, Chiarugi, Pinel, Gardiner Hill, and Conolly who raised the condition of the insane by showing the possibility of gentler methods of treatment; but, in a broader sense, the improved treatment of the insane was the result of that spirit of liberal inquiry and increasing benevolence which has done so much to soften the lot of the poor and miserable, to relax the cruelty of our criminal code, to reform our prisons, better our workhouses, and to fill the country with palatial hospitals where the poor and the friendless can claim the benefit of such skill as neither the king nor the baron of old could obtain.

The contrast between the Bethlem of to-day and that of 1745 is strikingly presented by two engravings. We do not know if the old superintendents of Bethlem and St Luke's ever dreamed of the change from their mean and bare surroundings to the elegant corridors where lunatics now go about without manacles or strait-jackets; but had they done so, we doubt whether they would have been allowed the means of carrying their views into execution. It is quite in accordance with such considerations that a gentler method of treatment of the insane was begun among a society of men who were singularized by their hatred of forcible and violent action, and who tried to carry out, both in private and in public life, gentleness and forgiveness to a length which are generally thought to be extreme.

One of the most pleasing parts of the book is the account of the Friends' Retreat, which was established by a citizen of York, Mr William Tuke. This benevolent man had been moved by what he had heard of the treatment that lunatics experienced in the York Asylum, and he had paid a visit to St Luke's Hospital in London, where he saw the patients lying on straw and in chains. He determined to found an asylum where the old harshness would be changed for as much kindness and gentleness as might seem possible. As Dr Tuke writes:—

"His mind being full of common sense, suggestive, and not seeing why the right thing should not be done, he set resolutely to work to effect his purpose. It became with him a question of humanity and right, and he resolved that if he could be the means of effecting it, there should be an asylum openly conducted and on humane principles. He talked over the project with his friends, and having at last formed a definite plan, he brought it forward before an assembly of the communion of which he was a member—the Society of Friends."

No doubt he had many obstacles in his way, some of which are recorded by tradition. In one of his letters he wrote, "All men seem to desert me in matters essential." His wife, who had assisted him in some of his benevolent undertakings, playfully told him that people would say he had many children, and that his last was an idiot. In the year 1792 the experiment was fairly begun. William Tuke at first resided in the asylum and superintended the management of the patients. Dr Fowler, who gave his name to the arsenical solution, was the first visiting physician. In the Retreat all kinds of restraint were abandoned save in a few cases. There were no bars in the windows, the house was surrounded by a garden, and the patients were encouraged to work in the open air as well as within doors.

An account of the Friends' Retreat was written by Samuel Tuke, and excited great attention. It was visited by Dr Delarive, a Swiss physician, who wrote a description of it in French, which was read by Pinel, then engaged in a similar work at the Bicêtre. Though Dr Hack Tuke takes a natural pride in the leading part played by his own family in this important undertaking, he is quite as enthusiastic in doing honour to Pinel. He animadverts upon a conceited article in the *Edinburgh Review* of 1803, in which the critic talks slightingly of the French physician. "However," he calls to mind, "the Edinburgh reviewer is forgotten and his name unknown. Pinel's name is covered with glory, although not a popular hero; for when I made a pilgrimage to his grave in the great Paris cemetery *Père la Chaise* in 1878, I was a solitary visitor, while crowds flocked to others, including that of Thiers, which is in close proximity to it. I am glad to see it announced that the *Société Médico-Psychologique* of Paris is about to erect—not too soon—a statue to his memory."

Imbued with such a spirit of enthusiasm, our author has spared no pains to seek and sift the truth, and his anxiety to do justice to every side and suppress nothing is worthy of all praise. We do not know which to admire more, his calmness of judgment, his anxious fairness, or his far-reaching research. His style, always clear and correct, when occasion serves becomes both striking and picturesque, so that the interest of the book is often enlivened amidst the quotations from dull official reports and sketches of hindered legislation. Dr Tuke gives us a full enough *résumé* of the results of the different inquiries made to ascertain the condition and treatment of the insane, as well as of the laws passed to secure them better treatment for the future. The contrast between the frightful abuses discovered within the memory of living men, and the failure of Mr Dillwyn's committee, in 1877, to discover any abuse whatever, is a proof of how much has been really accomplished. Nevertheless we are not disposed to say that nothing defective still exists, for Mr Dillwyn was on the wrong scent. Dr Tuke has shown us the evils of the past; perhaps it is asking too much to expect him to point out the shortcomings of the present. This will be the work of some future historian. One thing noticeable enough is that all the great improvements in the treatment of insanity have been effected by a generation now passed away, if not from this world, at least from the ranks of active life. The remaining questions, What amount of restraint should be resorted to in exceptional cases? or, How much liberty can be safely allowed? are, to one who takes a calm view of the matter, of no great moment.

There are interesting chapters on "Our Criminal Lunatics—Broadmoor," "Our Chancery Lunatics," "Our Idiots and

Imbeciles," and the provision for lunatics in Scotland and in Ireland. Dr Tuke severely blames our countrymen for their tardiness in securing proper lodging and care for the insane whose friends were unable or unwilling to support them. There was, no doubt, an exaggerated terror against having a Poor Law in Scotland, for which the working of the English system of parochial relief up to the Amendment Act of 1834 gave an excuse which was not entirely unreasonable. Had we time to discuss the question in full, it might be shown that the Board of Supervision had some reasons to move on slowly during the ten years in which pauper lunatics were under their care. Dr Tuke not only accuses them of neglecting their duty, but of making statements in their annual reports which were directly contrary to the truth, representing that things were going on well, when pauper lunatics were suffering greatly from neglect and privation which the Board had the power to relieve. Boards are screens; like despatch-writers, they glorify themselves in the first instance, and to expect them to abstain from covering their own shortcomings is to put too much faith in the hearts of men. Though our author is in general friendly to Scotland, we hope that as in the course of time and opportunity he gains a more direct and familiar acquaintance with our country he will modify such sweeping statements as the following:—"Judging from the records of the past, as given or brought to light by writers like Heron, Dalyell, and Dr Mitchell, no country ever exceeded Scotland in the grossness of its superstition and the unhappy consequences which flowed from it. When we include in this the horrible treatment of the insane, from the prevalent and for long inveterate belief in witchcraft, we cannot find language sufficiently strong to characterize the conduct of the people, from the highest to the lowest in the land, until this monstrous belief was expelled by the spread of knowledge, the influence of which on conduct and on law some do not sufficiently realize."

Perhaps it is the result of national prejudice that we conceive it to be an abuse of language to talk of those who believed in witchcraft and burned witches as being morally guilty, instead of being the dupes of a pernicious delusion. Would it be correct to call Sir Matthew Hale a slanderer or a murderer because he gave an unfavourable charge against two women tried for witchcraft? The belief in sorcery was neither of Scotch growth nor confined to the north. In Scotland we have many learned antiquarians but few antiquities, as in Asia Minor there are many antiquities and few antiquarians. We think what Dr Tuke has read about our superstitions is more a proof of the labour and skill of the writers who have gathered together these memorials of the past than an index of the superlative ignorance and credulity of Scotland.

Dr Tuke reprints at the end of the volume his presidential address delivered at the annual meeting of the Medico-psychological Association at London in August 1882. In this address Dr Tuke shows the full vigour and breadth of his mind, the catholicity of his views, his great acquaintance with the lore of insanity, and his warm hopes that the untiring progress of modern investigation will help us to do more and more for the unfortunate class whose maladies he has so deeply studied.

In conclusion, we hope that Dr Tuke may live many years to carry on, in successive editions of his interesting book, the history of the insane in the British Islands.

Recherches Cliniques et Therapeutiques sur l'Epilepsie, l'Hysterie, et l'Idiotie. Compte rendu du Service des Epileptiques et des Enfants Idiots et Arrières de Bicêtre pendant l'Année 1880. Par BOURNEVILLE, Médecin de Bicêtre, et H. D'OLIER, Interne de Service. Paris: 1881.

A Clinical Lecture on Idiocy and Imbecility. By ISAAC N. KERLIN, M.D., Medical Superintendent of the Pennsylvania Institution for Feeble-Minded Children (reprinted from the *Medical and Surgical Reporter*, May 20th and 27th, 1882).

The Epileptic Change, and its Appearance among Feeble-Minded Children (Reprint from the *Alienist and Neurologist*, July 1882).

WE see with pleasure such undoubted evidence of renewed activity in a department of pathology and medicine likely to yield fertile results, as are furnished by Dr Bourneville's clinical studies. It was thought that after Dr Seguin left Paris for America the study of idiocy and its concomitant diseases had fallen into neglect, and Dr Bourneville has plainly had much difficulty in arousing the slumbering diligence of the "administration" to the wants of his helpless patients. He speaks with admiration of the liberal arrangements of the Metropolitan Asylum of Darenth for the pauper idiots of London. It is the unavoidable destiny of those who have to do with such out-of-the-way subjects as idiocy that they should have to deal with managers who know nothing of the matter, and who, therefore, unless men of unusual good sense, are all the more jealous that any one should suspect, much less direct, their ignorance. Dr Bourneville has succeeded in getting some ameliorations effected, and will, we hope, yet obtain more. His own careful studies of the symptoms and therapeutics of idiocy are unexceptional proofs that he himself is not wanting in attention to his patients; and his literary activity diffuses far and wide the benefit of his knowledge.

The first paper is on Cyanosis. He observes that an open foramen ovale is generally associated with a contraction in the orifice of the pulmonary artery; and it is easy to see how the one anomaly should follow the other. In three cases of cyanosis studied by Dr Bourneville the low temperature characteristic of the disease became lower till the fatal termination. In one child recovery to health, conjoined, it may be supposed, with closure of the foramen, the temperature rose to the normal standard.

In the second paper Bourneville describes with his usual clearness and power of observation a case of cretinism with myxœdema (cachexie pachydermique). Most of the instances published of this rare disease were females; but this was a male idiot of nineteen years. Though not born in a district infected with goître and cretinism, he had the appearance of a cretin, with the thickened skin, furrowed at some places and smooth at others, characteristic of myxœdema. The thyroid gland was felt to be awanting, and there were fatty deposits in the posterior triangles of the neck.

Amongst his other curiosities Dr Bourneville gives us an account of a fasting idiot who rivals Dr Tanner, at least in abstinence from food, without the slightest desire to have the thing talked about. He commenced his first fast at two years of age, taking nothing but water for five weeks. The second fast was when he was seven; the longest one lasted twenty-eight days. He rejected everything but water and chicken tea without salt. The alvine evacuations were suspended. The fasting occasionally followed epileptic fits, but were not voluntary or accompanied with melancholia.

In the fourth paper he gives an account of hystero-epilepsy occurring in a boy aged thirteen.

M. Bourneville has been making some experiments on inhalations of bromide of ethyl in epilepsy. Though a new remedy generally succeeds best in the hands of the man that tries it first, it does not strike us that his results are very encouraging. Yet it may be that, in so desperate a malady as epilepsy often is, some one would be glad of a new remedy recommended by a physician of good reputation.

The other papers are on "Epilepsy with Inequality of the Hemispheres," "Partial Atrophy of the Left Hemisphere," and a case of idiocy due to general chronic meningitis. As he has made several observations of the kind, M. Bourneville thinks that there should be a special division of idiocy having its origin in inflammation of the membranes of the brain. Does he think that, if the inflammation were confined to the membranes, idiocy would follow?

Idiocy is too wide a subject to be fully treated in one clinical lecture, but Dr Kerlin has made the most of his time and space. His paper is likely to awaken interest in the subjects discussed.

In his article upon the appearance of the epileptic attack among feeble-minded children Dr Kerlin observes that the neuropathic state of most idiotic children is certainly on the near confines of spasm. The convulsibility of infancy is retained into the later life of the imbecile. He found that out of three hundred imbecile children between the ages of five and sixteen years, sixty-six, or twenty-two per cent., were actually epileptics; and that one hundred and fifty-six, or fifty-two per cent., had at one time or another suffered from epileptoid attacks. Moreover, that out of the whole three hundred cases there were only seventy-eight in whom there was neither epilepsy, paralysis, nor chorea. Out of these seventy-eight exempts there were only fifteen of sound physical health. A very trifling exciting cause will occasionally bring on a fit in idiots or imbeciles not habitually epileptic. Dr Kerlin points out the tendency to spasms in the general life of imbeciles; for example, a pencil grasped by the fingers of an epileptic child was found to be the factor of his schoolroom convulsions, displaying how delicate was the irritability which could not tolerate continuous tension of the muscles and nerves of the fingers without general spasm. An alarm of fire produced a convulsion in a nervous boy who had never been known to be so affected before; and the promise of a drive was sufficient to induce the same result in another lad. Dr Kerlin thinks that the excitement, which in general ends in an epileptic fit, frequently finds vent in another way, sometimes in sudden leaping or running or explosions of anger and violence. There is no use, however, calling these epileptic or epileptoid attacks, for, in medicine, we must attend to distinctions as well as to analogies. Dr Kerlin's paper shows an intimate knowledge of the subject, such as only a sagacious physician with the fullest opportunities of observation could obtain.

Two Hard Cases: Sketches from a Physician's Portfolio. By D. D. GODDING, M.D. Boston: 1882.

WE have received a number of pamphlets and reprints from medical journals, bearing well-known names, upon the insanity of Guiteau. A great deal of acumen was put forth and great exertions made to cause a stay in the proceedings; but since the man is hanged, we think that people on this side of the Atlantic have heard enough of the matter, and now care little more about the insanity of Guiteau than they do about the insanity of Fulton or Bellingham. As far as we know, Dr Godding's work is the only one which has reached the dimensions of a book, so perhaps it is less excusable to pass it by. The author humorously gives as his reason for writing it, that, as the result of his experience at the trial at Washington, he has discovered that a man must be very far down in the scale not to have at least written a book or have been elected an honorary member of some foreign society. At any rate Dr Godding can write a readable book. By the title, *Two Hard Cases*, we conceive that Dr Godding has a profound pity for the two lunatics described in the volume, one of whom hanged himself, while the other was hanged. Hard cases, no doubt, though there were a good many harder at the battle of Gettysburg. From the reports of the trial which appeared in the newspapers, we were inclined to think that Guiteau was insane; only he belonged to a class which, if they were all under confinement, would require asylums to be very much enlarged. Our impression is confirmed by reading Dr Godding's book. Guiteau's biography takes up 224 pages of the volume, the remaining 33 being occupied by an account of the other hard case, which, though curious to the psychologist, is not of any public interest. The reader who wishes to have an idea of the life led by Guiteau will find an account sufficiently entertaining for general perusal. The book was published before the long-delayed execution of the murderer of the President; but Dr Godding has published in the *Alienist and Neurologist* for October 1882 the last ghastly chapter in the life of the assassin. Of course his behaviour on the scaffold very much strengthened the idea that he was insane, so much so that we should not wonder if many who took the contrary side are now silenced, if not convinced.

Legal Medicine. Part I. By C. M. TIDY, M.B., F.C.S. London: Smith, Elder, & Co.: 1882.

THIS is the first instalment of a complete treatise on Forensic Medicine, which promises to take its place as a standard work on the subject. The author is a well-known medical jurist, who succeeded to the position occupied so long by the late Dr Letheby at the London Hospital. Dr Tidy was the favourite pupil and intimate friend of Dr Letheby, who made him his literary executor, and the present volume has the advantage of Dr Letheby's lectures and notes. What was said on a former occasion when reviewing the *Handy Book of Forensic Medicine and Toxicology* by the present author and the late Dr Woodman, may be also affirmed of this work, for it represents the teaching of the London Hospital as contra-distinguished from that of Guy's, where Dr Taylor held undisputed sway.

The subjects treated of are Medical Evidence generally in the introductory chapters, the Signs of Death, Identity, the Causes of Death, Post-mortem Examinations, Sex, Expectation of Life, Heat and Cold, Lightning, Combustibles and Explosives, and Starvation. This enumeration will suffice to show the nature of the contents of the volume, and to indicate the important topics which have yet to be considered.

An excellent arrangement is adopted, whereby cases, instead of being inserted in the text, are relegated to the end of the chapter which they are intended to illustrate. We reserve for the completion of the work a criticism of the manner in which our author has discussed the leading topics. Meanwhile we have to express our sense of the completeness of Dr Tidy's exposition, and especially of the wide range of his reading, by means of which he has been enabled to bring the work up to date, both as regards authors and cases.

The volume is sumptuously printed, and presents more the appearance of an edition *de luxe* than a text-book to occupy the shelves of the hard-working practitioner of medicine. The type compares most favourably with the text-books in other departments of medical science.

Quain's Elements of Anatomy. Edited by ALLEN THOMSON, M.D., D.C.L., LL.D., F.R.S., formerly Professor of Anatomy in the University of Glasgow; EDWARD ALBERT SCHÄFER, F.R.S., Assistant Professor in University College, London; and GEORGE DANCER THANE, Professor of Anatomy in University College, London. In two volumes. Ninth Edition. London: Longmans, Green, & Co.: 1882.

THIS venerable anatomical classic, so well known to many generations of students, has now reached a ninth edition, which surpasses any of its predecessors in clearness of style and the magnificence of its many illustrations. The essentially new features of this edition are the colouring of the bloodvessels and some of the histological drawings, and the addition of a chapter on Superficial and Topographical Anatomy, which is well written and will prove extremely useful.

The colouring of the figures of the arteries has been very well done, the vessels standing out in a marvellously distinct manner and catching the eye much more readily than when merely engraved in black and white. The chapters on the central nervous system have been largely rewritten in order to bring the description down to date, many notable advances having been made in this field since the publication of the last edition. We notice some very capital drawings of sections of the brain in the region of the corpus striatum, showing the nuclei or capsules, a clear knowledge of which is so essential from a clinical point of view.

The sections devoted to histology have also been rewritten, and most of the drawings are new; in fact, the whole work has been very thoroughly overhauled, and altered, in accordance with latest views on the subject. A paragraph on bibliography is appended to each section, and no pains have been spared to render the work worthy of its well-earned fame.

Archives of Dermatology: a Quarterly Journal of Skin and Venereal Diseases. Edited by L. DUNCAN BULKLEY, A.M., M.D., Attending Physician for Skin and Venereal Diseases at the New York Hospital. Vol. VIII., No. 4. New York: G. P. Putnam's Sons: October 1882.

WITH this issue, which completes the eighth volume, the *Archives of Dermatology* ceases its existence. Though aided by a numerous staff of fellow-workers, it is not too much to say that the indefatigable and versatile editor has been the life and soul of this journal. Its place will now be taken by the *Journal of Cutaneous and Venereal Diseases,* issued monthly. We trust that those who formerly supported the *Archives* will continue as contributors and subscribers to the new serial, which, in the two numbers before us, contains much of practical value for all.

The Transactions of the Medico-Chirurgical Society of Edinburgh. Vol. I. Session 1881–82. Edinburgh: Oliver & Boyd, Publishers to the Society: 1882.

WE hail this volume with much satisfaction, and hope that it will be succeeded by an annual series. It is creditable to the Edinburgh school, and contains many valuable papers, with a great amount of important information. The editing and arrangement has been well done by Dr William Craig, who writes a short preface. There is an omission, however, which ought to be supplied on a future opportunity. Some reference ought to have been made, we think, to those volumes of Transactions which were published in the earlier years of the Society, and which were highly valued at the time. They contained very able and even epoch-making papers, by such men as Dr John Abercrombie, Dr W. P. Alison, Dr George Kellie of Leith, Dr John Gairdner, and Dr James S. Combe, who still survives, and who then wrote so well that his friends regret that he has not written more.

We venture on another suggestion, that the obituaries of distinguished members of the Edinburgh school should be given *ad longum,* not merely referred to, in future volumes. This plan is followed with advantage in one or more of the annual reports of the great London schools.

Army Medical Department Report for the Year 1880. Volume XXII. London: Her Majesty's Stationery Office: 1882.

THE appendix to the report is that part to which the civil practitioner will turn with most interest. In a series of twelve papers some very important subjects are discussed. Medical histories of the wars in Afghanistan, Natal, and the Transvaal are recorded with considerable minuteness, and much that is valuable as regards gunshot and other wounds will be found on a careful perusal of them. In the other non-military articles we find Surgeon-Major de Chaumont discussing Pettenkofer's views on cholera, Brigade-Surgeons Marston and Chapple and Surgeon Exham giving valuable and important hints on the diagnosis and treatment of enteric fever, while Brigade-Surgeon Veale writes lucidly on "Palpitation of the Heart in Soldiers." Surgeon-Major Tobin, in his list of Netley operations, gives details of a remarkable case of successful trephining for gunshot wound of skull and brain, which have also been published recently in the *British Medical Journal* by Surgeon-General Longmore. Professor Aitken, in the concluding paper, makes some interesting "Observations on a Case of Fractured Femur, and Embolus, in a Gunner, Royal Artillery, at Halifax, Nova Scotia," in which he points out that the death was due to syncope from fatty degeneration of the heart, a not uncommon result after injury where the heart is so diseased.

Medical Faculty, M'Gill College, Semi-Centennial Celebration. Introductory Address: A Sketch of the Life of the late Dr G. W. Campbell, and a Summary of the Early History of the Faculty. By R. P. HOWARD, M.D., Dean of the Faculty. *Report of Speeches at the Banquet, Windsor Hotel, 5th October* 1882. Montreal: Gazette Printing Company: 1882.

ALTHOUGH the title might convey the impression that this is an ephemeral production, we regard it as valuable and worthy of attention by all who watch the progress of our profession both at home and abroad. Dr Howard has succeeded in giving an interesting account of the rise and progress of the medical school in Canada, which owed its origin to four men of public spirit some sixty years ago, and, after struggling with difficulties for a time, has at length attained to the dimensions of a vigorous and admirably equipped institution. It affords an excellent professional education to the ingenuous youth of the Dominion; and although some of these are attracted to Europe by the prestige of older schools, it seems to us that in the M'Gill College all the essentials of medical instruction are lavishly provided for them. There is an excellent memoir, appended to the history, of Dr G. W. Campbell, who perhaps did as much as any of his cotemporaries to strengthen the school, both by the excellence of his teaching and by his eminence as a practitioner. Surgery was his forte, and that he was quite abreast of its modern attainments is known to many in the mother country who had the pleasure of making his acquaintance during more than one visit to Scotland. There is a characteristic portrait of him given as a frontispiece, which indicates a vigorous mind, honesty of purpose, benevolence, and self-reliance.

The speeches at the banquet, which was largely attended by eminent members of the profession, were, as a rule, high-toned and full of *esprit de corps.*

The Medical Man's Handy Book. Edited by WILLIAM SHEPPERSON. London: J. & A. Churchill: 1882.

THERE is little information in this book which is not readily accessible elsewhere. It contains a pretty full table of incompatibles, though it appears superfluous to give those of abointhium, while it is surely a mistake to say that mineral acids and muriate of iron cannot be prescribed with calumba. There is also a list of antidotes to poisons, posological and proportion tables, saturation tables, excipients for pills,—though it is recommended to leave the selection of the excipient to the experience of the dispenser,—hypodermic injections,—no notice of pilocarpine or arsenic, while the acetate of morphia takes the place of the far more soluble and stable tartrate,—and spray solutions. We scarcely think our readers will get in this volume value for their money.

Pestilentia in Nummis: Geschichte der grossen Volkskrankheiten in numismatischen Documenten. Ein Beitrag zur Geschichte der Medicin und der Cultur. Von Dr L. PFEIFFER und C. RULAND. Mit zwei Tafeln abbildungen in Lichtdruck. Tübingen: Verlag der H. Laupp'schen Buchhandlung: 1882.

Plagues (as recorded) on Coins: the Histories of great National Calamities, as given in Coin-Inscriptions. A Contribution to the History of Medicine and of Civilization. By Dr L. PFEIFFER and C. RULAND. With two Plates printed from Photographs (the Albert type process).

THE word coins in the above title does not refer to money pieces, but to medals which have been from time to time struck in commemoration of important events. The book consists of a descriptive catalogue of over 500 such medals which in their inscriptions have a bearing on the occurrence of such national calamities as severe epidemics, famines, floods, plagues of locusts, etc., etc.; and at the end two plates are given, containing representations of thirty-three of the described coins, which for accuracy and beauty in the reproduction of detail we have seldom seen surpassed in works of a similar kind.

In the preface the authors show how history may be corroborated by a study such as the one offered in their book, and how not unfrequently, from the inscriptions on some of the specimens, an insight may be obtained into the life and surroundings of the people of the sixteenth and seventeenth centuries—for so far back only does this method of research carry us—which history does not afford; as, for example, pp. 42 *et seq.*, where are to be found, recorded on medals, the prices of such articles as corn, wheat, bread, butter, etc., at various dates, frequently with the remark, Grosse Theurung, Schlechte Nahrung. Short but interesting references are also given as to the first appearances in Europe of smallpox, scarlet fever, measles, cholera, etc.

In the body of the work great care has been taken in the arrangement of the material first into sections, and again chronologically in each section. The following headings, from the six chapters into which the work is divided, will give an idea of its scope:—I. Medals relating to poverty and famine and their prevention, and to such accompanying natural phenomena as comets, flights of locusts, and floods, and to wet and bad harvests. II. Medals, jetons, etc., struck in commemoration of "plagues," or with reference to their prevention. III. On inoculation and vaccination. IV. Yellow fever. V. Cholera. VI. Medals on various other diseases which occur frequently, as also on measures to subdue excessive mortality in general.

Into the 200 pages which compose the book the authors have contrived to compress an enormous amount of historical information of a curious and interesting character; and to the student of the history of medicine the work will surely prove a mine of great value. Each series of medals is prefaced by a short dissertation explanatory of the facts and times to which the inscriptions on the specimens refer; as, for instance, under Chapter I., after noticing all the principal famines from the eleventh century till now, with more detailed accounts of some of the important ones of more modern times, and showing the connexion between them and typhus fever epidemics, we find a succinct statement of the food-producing capabilities of the various European countries in proportion to their population, based upon official returns; and, following that, an account of the causes which have given rise to some of the famines. The subject of dealing in corn is also dealt with, and we are told that during the sixteenth and seventeenth centuries the laws of Prussia and other countries forbade the existence of middlemen between the producer and the consumer. The first corn merchants were the Jews, and various specimens of medals are described, referring to them under the name of *Kornjuden*. On one of those which is figured at the end of the book, the Jew is represented hung upon a tree,—an indication of what was considered the proper fate for any one who increased the price of the staff of life. Fortunately for the modern representatives of the Kornjude, our knowledge of commercial economics has increased since those days.

In addition to such introductory matter, we have, scattered through each section, short explanatory remarks on each set of medals, the medals being used, so to speak, as pegs on which are hung short but comprehensive historical epitomes of the subjects referred to; and we find the authors equally conversant with and interesting in their handling of such diverse subjects as the contents of the book indicate—famines, comets, floods, locusts, plagues, etc.

We are confident that the book will not only be valued by those specially versed in numismatics, but that its perusal will afford both pleasure and profit to such members of our profession as care to increase their knowledge of the history of medicine.

The Laws of Life. By J. L. MILTON, Senior Surgeon to, and Lecturer at, St John's Hospital for Diseases of the Skin. London: Chatto & Windus: 1882.

THIS little work contains some rather startling theories of the nature, tendencies, and operations of the "vital powers." Its conclusions are not inconsistent with physiology, nor are they unsupported by the facts of pathology. But nevertheless Mr Milton's views are not likely to be received without criticism of very sharp nature. He writes in an interesting manner, and his book has at least the merits of clearness and brevity.

Light: a Course of Experimental Optics, chiefly with the Lantern. By LEWIS WRIGHT. London: Macmillan & Co.: 1882.

THIS is at once a charming and instructive book, and forms a very complete introduction to the science of which it treats. If there is any royal road at all to scientific knowledge, Mr Wright may certainly claim to have discovered it, for he initiates his readers in the easiest and clearest fashion into the mysteries of light and its nature, colour, interference, etc. We know of no book we could more thoroughly recommend to the medical student and to the student of natural philosophy than Mr Wright's manual. And not the least important feature of the book is that it may be perused by the general reader with advantage and instruction.

Colin Clout's Calendar. By GRANT ALLEN. London: Chatto & Windus: 1883.

UNDER this quaint title, we find another volume of sketches by Mr Grant Allen, similar in nature to the light, breezy papers by which he has made his name familiar to magazine readers. The *Calendar* is "the record of a summer, from April to October," as the title has it; and although our author certainly, by his own showing, trenches deeply on the autumn time, no one will grudge him the extension of his season. The papers included in this volume originally appeared in the *St James's Gazette.* Mr Allen chats pleasantly about "Wild Hyacinths," "Catkins and Almond Blossom," "Spring Flowers," "The Mole at Home," and other kindred subjects. He is always lively, and for the most part clear and entertaining. If there is any fault to be found with this, as with his other works, it is that they are somewhat sketchy, and leave the reader, often unqualified as he is, to fill in the pictures whose outlines Mr Allen draws. But if they stimulate a love of nature and of inquiry, as we think they do, such works show yeoman service in the cause of knowledge and its diffusion. For a leisure hour, there cannot be a better companion than *Colin Clout's Calendar.*

The Great Pyramid. By RICHARD A. PROCTOR. London: Chatto and Windus: 1882.

THE perennial mystery and interest which attach to the pyramids form, perhaps, more than a sufficient excuse for the publication of Mr Proctor's latest volume; and there exist very few persons who are not sufficiently animated by curiosity, and who will not care to dip into Mr Proctor's pages. In three chapters the author discusses the history, religion, and problem of these stupendous erections. Added to the pyramid part of the work proper, we find essays on the "Origin of the Week," the "History of Sunday," "Astrology," and other topics. A broad but reverential tone characterizes the author's treatment of these latter essays; and the chapters on the pyramids themselves will be found both lucid and entertaining. Mr Proctor's book is exactly that which should find a niche in a bookshelf devoted to the reception of works of handy reference as well as of information. It should also be added that it is a work worthy the attention of scholars and scientists who feel interested in one of the most perplexing problems of man's past history.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LXII.—MEETING II.

Wednesday, 6th November 1882.—Dr G. W. Balfour, *President, in the Chair.*

I. Election of Office-Bearers.

The following office-bearers were elected for session 1882–83:—President, George W. Balfour, M.D., F.R.C.P. Edin. Vice-Presidents, Joseph Bell, F.R.C.S. Edin.; Prof. Thomas R. Fraser, M.D., F.R.C.P. Edin.; David Wilson, M.D., F.R.C.S. Edin. Treasurer, Alexander G. Miller, F.R.C.S. Edin., 11 Walker Street. Secretaries, C. Watson MacGillivray, M.D., F.R.C.S. Edin., 11 Rutland Street; Alexander James, M.D., F.R.C.P. Edin., 11 Albyn Place. Editor of Transactions, William Craig, M.D., F.R.C.S. Edin. Members of Council, William Zeigler, M.D., F.R.C.P. Edin.; O. H. Garland, M.B., M.R.C.P. Edin., Leith.; C. H. Thatcher, F.R.C.S. Edin.; Robert Lucas, M.D., Dalkeith; P. Heron Watson, M.D., F.R.C.S. Edin.; Byrom Bramwell, M.D., F.R.C.P. Edin.; John B. Buist, M.D., F.R.C.P. Edin.; T. R. Ronaldson, M.B., F.R.C.P. Edin.

II. Election of New Members.

The following were elected Ordinary Members of the Society:—J. Maxwell Ross, M.A., M.B., L.R.C.S.; John Carlyle Johnston, M.B.; J. Rutherford Morrison, M.B., F.R.C.S.; Roderick Maclaren, M.D., Carlisle.

MEETING III.

Tuesday, 16th January 1883.—Dr G. W. Balfour, *President, in the Chair.*

I. Election of New Members.

The following gentlemen were elected Ordinary Members of the Society:—W. Wotherspoon Ireland, M.D., Prestonpans; Francis M. Caird, M.B., C.M., F.R.C.S., Edinburgh; F. W. Dyce Fraser, M.B., C.M., M.R.C.P.E., Edinburgh; James Longmuir, M.D., Bathgate; R. H. Blaikie, M.A., M.B., C.M., Edinburgh; Robert Mackenzie Johnston, M.B., C.M., L.R.C.S., Edinburgh.

II. Exhibition of Patients.

Mr A. G. Miller showed two patients, girl and boy, who had been admitted under his care in the Royal Infirmary about six months before, each suffering from gelatinous degeneration of the knee-joint, the girl having an abscess as well. He showed them because the result, which was exceedingly good, was got by means of an old-fashioned mode of treatment—Scott's dressing. The disease in both was in a very advanced condition in July last, the joint in the boy's case being red and fluctuating, just as if suppuration were present. During the first part of the treatment the patients were kept in bed, but latterly they had been allowed to run about with the dressing on. The girl had had her toe amputated previously by Mr Spence for strumous disease.

Mr Joseph Bell showed a case which he considered interesting with reference to the question of distribution of the sensory and motor nerves. The patient (a cabman, æt. 38) had sustained, ten years ago, a very severe injury by being thrown from a horse. He was at first completely paralyzed below the middle of his back, and extensive bed-sores occurred over the sacrum and ilia. After a great many months of suffering he began to improve, and his present condition was a very remarkable one. He had a very considerable amount of muscular power, but over a great part of the lower limbs he had lost all sensory power, so that some time ago a horse crushed his foot, destroying several of the bones, without his knowing anything of it till his attention was drawn to the fact by his comrades. The bones he removed himself, after inflammation and suppuration, without pain. He came under Mr Bell's care for ulcers on the front of both legs, which healed after skin-grafting. These were caused in a curious way. Not having sensation in his feet, he sometimes failed to step on to his dickey properly, and barked his shins. All over the feet and back of the leg and thigh he was devoid of sensation. The house surgeon, Mr Mills, had gone carefully into the conditions, and found that the sensation to heat and cold was present but somewhat diminished. Plantar reflex was absent. Cremasteric reflex was present on the right side, but absent on the left. Gluteal reflex was slightly present on the left side, absent on the right. Ankle clonus not present. Tendon reflex well marked, and exaggerated on the left side. There was no common sensation in the penis and scrotum, but sexual feeling was all right, and he was the father of two children. Their theory of the nature of the injury was that a hæmorrhage had occurred into the spinal canal, pressing on the nerves making up the cauda equina, and injuring the sacral nerves more than the lumbar.

Dr Maclaren said he wished to bring before the Society a rare and interesting case—rare, because it was an example of an ordinary disease occurring at an extraordinary time; interesting, because it confirmed a law in pathology and established the truth of a principle in therapeutics. The patient, a young woman nearly 20 years of age, came under his notice last September as an out-patient of Dr Duncan's, whose wards were at that time under his care. For sixteen months previously, first under Mr Bell and latterly under Dr Duncan, she had been haunting the hospital every week, suffering from a chronic inflammation and ulceration of the naso-buccal cavity, accompanied by occasional necroses of the bones of that region. Under both these surgeons she had been diligently treated with cod-liver oil and iron without any beneficial result. When he first saw her she had very much the expression of frog-face. Her upper lip was everted. The septum nasi was gone. The vomer, a part of the hard palate, turbinated bones, and a considerable portion of the ethmoid, were also away. Seeing that anti-scrofulous treatment had failed, he began his investigation by asking why. Accordingly, in the first place, he looked for evidence corroborative of the diagnosis of scrofula, but found no traces of corneal ulceration, no cicatrices of early glandular abscesses, nor enlarged glands anywhere. Lungs and digestive organs were healthy, but she had never menstruated. There were wanting equally any signs of acquired syphilis, against which theory there was the strong presumptive evidence that the girl was a virgin. Another theory presented itself to his mind, that the symptoms might be due to the late development of hereditary syphilis, but his attempts to elicit the family history were foiled by the deficient articulation of the patient, rendering her speech unintelligible. Awaiting further evidence on this point, he determined to apply the touchstone of iodide of potassium (x. grs.) to the case, and watch its effect. The muco-purulent secretion was washed out with a solution of chloride of ammonium, and the ulcerated surfaces touched with iodoform suspended in vaseline. Before the lapse of a week so manifest a change had taken place that he felt assured he was on the right track, and with greater confidence in the drug he increased the dose to grs. xv. ter in die. Soon after an elder sister called and gave him a family history that pointed decidedly to syphilis. In a month the ulceration had cicatrized. The congestion diminished, as well as the muco-purulent secretion, and the well-being of the patient had been re-established, but he did not discontinue the iodide for another month, as they knew that gummatous infiltrations were more extensively disseminated than merely at the points where active disintegration was going on, and that the absorption of these was necessary to prevent outbreaks of the disease. It must always be doubtful, in any case of naso-buccal disease, to determine the dyscrasia which had occasioned it, but the careful although fruitless attempts of his colleagues and the action of their remedies had shown that there was no scrofulous element, and the very prompt action of the iodide detected the syphilitic. As soon as the parts became sufficiently consolidated he sent the patient to the Dental Hospital to be fitted with an artificial palate, which had been most successfully accomplished by Mr M'Leod, dentist, so that both her speech and deglutition were much improved. From this it might be concluded, *first*, that syphilis did not become scrofula by transmission. The type was unchanged, although the intensity and activity might vary. *Secondly*, That iodide of potassium, in the tertiary forms of the disease, is deserving of the term specific, and that this curative agent might often be utilized as a curative agent.

Dr Cadell showed a FEMALE CHILD with a large hairy mole over the right temple and cheek. The mother ascribed it to a fright she got from a retriever dog when pregnant.

III. EXHIBITION OF SPECIMEN AND PATIENT.

Mr Symington showed a CERVICAL RIB met with in the dissecting-room. The specimen was of some little surgical interest, as the rib terminated in a well-marked bony prominence above the clavicle. It was connected with the seventh cervical vertebra, and showed a head, neck, tubercle, and shaft, and this was connected by a process of bone with the first thoracic vertebra. One of his students showed a bony prominence in a similar situation, and had kindly come to show it. Mr Bell was of opinion that it was a cervical rib. Sometimes these cervical ribs, by forcing up the vessel, simulated aneurism, and in the specimen it was seen that the vessel was much more prominent than usual.

IV. ORIGINAL COMMUNICATIONS.

I. *Mr Joseph Bell* read his paper ON A PECULIAR MENTAL STATE AS THE RESULT OF CRANIAL INJURIES, which appears at page 684 of this Journal.

The *President* said they were much indebted to Mr Bell for bringing this subject before them. The effect of loss of consciousness on memory was sometimes peculiar. There was a case on record in which a blow on the head had knocked all the week out of a man, leaving his memory in every other respect intact. In slight epileptic attacks the momentary loss of consciousness left the memory unimpaired, and the patient continued his conversation as if nothing had happened. But when the epileptic attacks were more grave, memory was always much impaired, and sometimes almost entirely lost. As showing the interest taken in this subject by those outside the profession, he might refer Mr Bell to a peculiar case recorded in a recent number of *Blackwood.*

Mr Bell said he had read it.

Dr Shand gave a few interesting and lively reminiscences of the effects of head injuries.

Dr Clouston said he was sure they must be obliged to Mr Bell for the clear way in which he had brought his psychological facts before them. So far as the psychological books went, they were a *tabula rasa* in regard to the forgetting of facts which had occurred shortly before accidents. There was no part of the mental constitution that was so much affected after accidents as the memory, but Mr Bell's facts were, many of them, new to him. His theory that there must be a gradual registration of sense impressions, and that that recording must take up some time in order that they may have a permanent place in memory, was, he considered, a correct one, and he could not see how the facts could be explained except on some such hypothesis. In regard to the later mental effects of cranial injuries, they were pretty well known. One per cent. of the cases sent to asylums were traumatic cases. Of these, injuries to the memory were the most common. Next to them came a certain loss of inhibition, which manifested itself in morbid irritability. Next the social instincts were changed. In one instance the patient, from being a pleasant, sociable man, became low, moody, suspicious, and taciturn. His memory was not affected, nor his power for work. Dr Charles Skae put on record a remarkable case of that kind, caused by pressure on the brain and irritation after the inner table of the skull had been driven in through an accident. The patient was at once cured by trephining. Another effect was a most common one. It was of the nature of a diminution of inhibitory power—a great intolerance to alcoholic liquors. He did not think there was one man in a hundred who had received a head injury who could stand liquor afterwards as he had done before. In those predisposed to insanity an injury often acted as the exciting cause, just as some severe emotion might do. They had now in asylum a woman who had been under Dr Duncan's care for unmistakable fracture of the base of the skull. In her case there was an entire loss of memory, with dementia, but without any marked paralysis. She walked about and articulated well enough, but was now undistinguishable from an ordinary dement. A great deal of light was thrown on these cases by Duret's investigations into traumatism, which demonstrated that actual conditions of disease occurred. In the majority this at least took place, but there were impressionable brains in which the violent emotion that often occurred at the time of an accident was the more probable cause of the insanity. He had seen one or two cases in the female sex in which this seemed to have occurred. He could not sit down without saying that if surgeons and physicians studied and put on record more of the psychological phenomena to be observed in many of their cases it would help him and his fellow-workers very much. They often felt that they had not half the history of their cases.

Dr Gunning of Brazil said he had rather a remarkable case of head injury in his own person, and his experience was somewhat different from that related by Mr Bell. He happened to be shot while lying asleep. He remembered that his first idea was that he had heard a remarkably loud thunder-clap, next that an earthquake must be occurring. He then thought he must be having an apoplexy, and began to think of the capillary circulation of the brain, when he awoke and felt some blood trickling down the side of the head. He put his hand up, and his finger touched the brain. He had all his wits about him, and he remembered distinctly of getting out of his room, when he fainted; and when he recovered he could not speak, and his right arm and leg were paralyzed. A surgeon came to trephine, but he refused by signs. Gradually he recovered, but he felt the truth of Dr Clouston's remark as to the intolerance to alcohol after head injuries. He had to abstain completely from wine.

Professor Calderwood had very great pleasure in being present to listen to Mr Bell's paper. It was kind of the Society to allow strangers to hear papers on subjects in which they might feel a special interest. He was glad to have an opportunity of hearing the subject discussed as it had been, because on the metaphysical side they profited largely by the observations of practical men. From their (the metaphysicians') point of view memory was much more before them as a matter of voluntary exercise, both in securing attention and in recalling, than it could be considered as it was that night. He was satisfied of the occurrence of such cases as Mr Bell mentioned. A similar instance occurred not long ago in a railway accident between Hamilton and High Blantyre. His brother-in-law and a medical man from Hamilton were in the carriage together when the train went off the line. The accident was slight. None were rendered unconscious by it; but when they got out of the train the doctor had forgotten entirely where he was going, and it was only on being reminded that it was to High Blantyre, and on looking at the label on some medicine he had in his pocket, that he remembered his patient's house and his destination. In this instance the loss of memory seemed to occur without loss of consciousness. To him the subject was one of very great interest in several ways. It was quite clear that, from the point of view which the psychologist took, it would be a matter of first interest how much of attention there was concentrated by the patient prior to the accident. He was glad to hear Mr Bell refer to the case in which a metaphysical discussion was going on at the time of the accident. But he could not help asking himself, How often might one have a metaphysical discussion and forget it altogether without ever going through a concussion? If, however, they allowed for the disappearance of impressions by concussion, it looked as if some time were necessary to register the impressions; but then he had a whole host of puzzles round that. For example, how should they carry out the theory where no concussion happened? Did an impression take a certain time to register, so that they did not have the memory for the time during which the registration was being made? He felt, further, that this question was of interest, Could they go on registering impressions along the same course, and have no uncertainty about them, so that they did not confuse one another? The localization of memory was an interesting subject, but difficult. For his own part, he was firmly convinced that a considerable portion of memory was a part of the physical organism. Passing on to another point, that of recalling or recollecting, there was a mass of interest as to the connexion between voluntary and involuntary recollection. When we pass into the voluntary, it became very interesting to know where we were getting between the physical and mental. There were many other points of interest into which he could not enter, but he felt that he and his colleagues would be greatly benefited by being asked to come to the Society when such papers were read, and he had to thank the Society again for allowing him to be present.

Mr Bell said he was glad his paper had called forth the two interesting speeches they had heard from Dr Clouston and Professor Calderwood. With regard to traumatism in insanity, he might say that for a great many years past he had been convinced that in cases of concussion some gross lesion occurred. Wherever they had an opportunity of examining cases of concussion, some visible change in the brain could be seen. There was one illustration he might give with reference to registering. If students or others wanted to cram anything particularly well for an examination,—say, the Natural Orders, which were a piece of perfect nonsense, but were nevertheless prescribed,—they knew that the best way was to get them up the last thing before going to bed, and fall asleep immediately. They had them almost at their fingers' ends in the morning if they managed to do that. But if they allowed anything to intervene between the cramming and the sleeping, they forgot in proportion. In regard to Dr Gunning's case, he could not help feeling that there was quite a sufficient reason for his forgetting nothing. He was asleep, and had nothing to forget. He was obliged to the Society for the kind way in which they received his paper.

II. *Dr Maclaren* then read his paper on a CASE OF STRANGULATED CONGENITAL HERNIA, which will appear in a future number of this Journal.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XLII.—MEETING II.

Wednesday, 29th November 1882.—Dr JAS. CARMICHAEL, *Vice-President, in the Chair.*

Dr Hart, in opening the discussion as to the appointment of a pathological committee, pointed out the great value of pathological work. It was the bane of gynecology, as of other branches of medicine, that treatment of a disease had to be taken in hand before its pathology was mastered. As our knowledge of pathology increased, much treatment sank into merited oblivion. No better instance could be given of this than the modern relegation of the heroic caustic treatment of the cervix uteri to forgetfulness as our knowledge of the pathology of erosions and cervical splits grew. To the same bourne it was to be hoped the complicated pessary machinery of the present gynecological era would be more completely driven by fresh inquiries. There were many subjects on which fresh observation was needed, and still more where, owing to difficulty in obtaining specimens, the accumulation of isolated ones was not to be despised. Thus uteri at various stages of menstruation, specimens of prolapsed uteri, ovaries and Fallopian tubes removed for disease, gave the pathologist material for the gradual accumulation of facts on the subjects of menstruation, the origin of ovarian cysts, the bearings of pyosalpinx and allied conditions on dysmenorrhœa, and the intolerable pains of chronic cases. In a society like this such specimens were exhibited not infrequently, and their careful and systematic examination would be of great value. He did not wish to underrate at all the valuable pathological work done by many of their Fellows—by Duncan, Foulis, Underhill, Slavjansky, Barbour, and others; but it could not be ignored that many valuable specimens were not investigated as they ought. He had proposed, therefore, to the Council that a pathological committee should be appointed, whose special duty it should be to utilize this waste material. The Council had proposed drawing up a list of the names of the following as the committee, viz., Drs C. E. Underhill, Foulis, Buist, Chapman, Milne Murray, and Hart (convener), and it was now hoped that the meeting would consider this proposal for the better working of the Society.

Dr Carmichael said that the Society, in appointing this committee, was only following in the wake of other societies and keeping abreast of the time. There was great necessity for pathological investigation in gynecology, which, like medicine and surgery, rested on pathology as its basis. The object of Dr Hart's paper, with whom the idea of appointing this committee originated, was to call forth individual expressions of opinion and any suggestions which Fellows might make as to the constitution and working of the committee. He would be glad to hear the opinions of the Fellows present in regard to Dr Hart's proposal.

Dr Peter Young thought that the proposal could not fail to meet with general acceptance. The advantage of such a committee was that a careful and accurate examination of pathological specimens would be made. It would be desirable, however, to have it distinctly understood that the committee should not publish the report in the first instance, but hand it over to the proprietor of the specimen.

After some discussion as to whether the proprietor of the specimen should be a member of the committee *pro tem.*, it was agreed to accept the recommendation of the Council as to the appointment of a pathological committee, and to instruct them to draw up bye-laws to be submitted to the Society for its approval.

The following Fellows were elected to serve on this committee: —Dr C. E. Underhill, Dr Foulis, Dr Buist, Dr Milne Murray, Dr J. M. Chapman, Dr Hart (convener).

The bye-laws, which were approved of at the meeting of the Society on 10th January, are as follows:—

Bye-Laws for Pathological Committee.

1. When requested by the owner of a pathological specimen, the

pathological committee shall examine and prepare a Report on it for the Society as soon as possible.

2. Their report shall be first communicated to the owner, and may be incorporated by him in any communication he may bring before the Society; or if no special paper is prepared, the pathological committee shall present their report to the Society directly.

3. The specimens are to be retained by the owner, and disposed of by him as he wishes.

4. The owner shall be notified as to the time and place where his specimen is to be examined, so that he may be present if he choose.

5. The committee shall yearly, at the last meeting of the session, present a report of the specimens given them for examination, and shall give a *résumé* of their work. This report is to be in addition to the special ones provided for in Bye-Law 2.

6. The committee shall be appointed annually, at the first meeting of the session.

The committee wish it to be known that they will be glad to examine any preparations of obstetrical or gynecological interest for gentlemen who are not Fellows of the Society. Specimens from the country, intended for microscopic examination, should be sent as fresh as possible, and wrapped up in cloth soaked in methylated spirit and covered with gutta-percha tissue. A report will be sent back, with specimens of the microscopic sections.

The following gentlemen were balloted for and duly admitted as Fellows of the Society:—Mr G. Keppie Paterson, M.B.; Mr A. P. Hillier, M.B.; Mr David Smart, M.B.; Mr H. R. Rendall, M.B.; Mr C. H. Bourne, M.B.

Part Fourth.

PERISCOPE.

MONTHLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

By Angus Macdonald, M.D.

A Case of Neglected Presentation of the Shoulder, in which the Prolapsed Arm was pretended to be torn away by the Lying-in Woman herself (*Centralblatt für Gynäkologie*, No. 43, 1882).—This case is recorded by Dr Wolezynski of Czernowitz. The patient was confined of her third child, her previous two labours having been normal in every way. She at first had no assistance, and as the pains continued upwards of 24 hours and were very severe and almost unbearable, she states that during one of them she pulled upon the arm which had prolapsed, and tore it off. She then sent for an irregular, and finally for a skilled midwife. The latter, on examination, finding the case too difficult for her, advised to call in Dr Römer. After prolonged and careful examination Dr Römer diagnosed a portion of the thorax presenting and wedged tightly into the pelvis. On the right of the swollen presenting thorax he reached a part where shreds of skin and muscle with portions of ribs could be felt, but no arm. He could also reach by the examining finger close to the neck, but could not get high enough up to decapitate. After closely examining the case he got the parturient woman to confess that the arm had been torn off. He now sent for Dr Wolezynski to aid him in the management of the case. They agreed that evisceration was the best method to adopt in the circumstances, and succeeded in delivering in that way. The uterus was so tetanically contracted that they dared not think of turning. It ought to be noted that the labour began on Saturday, and it was not till Monday morning at 8 o'clock that Dr Römer was called in. The child was a well-developed boy. The right upper extremity was completely wanting, the glenoid cavity of the scapula was laid bare, the skin on the breast and dorsal muscles was retracted, etc. The discharge was very fœtid. Notwithstanding this and the fact that the author omitted washing out the interior of the uterus with carbolic solution on purpose, the patient made a good recovery. Dr Wolezynski's reason for not washing out the interior of the *uterus* in such cases is somewhat peculiar, viz., that when the room, linen, and entire surroundings of the parturient woman are filthy, in spite of every effort in the direction of cleansing instruments, infection by air is probable. He advised the woman, however, in this case to wash out the *vagina* with a two per cent. solution of carbolic acid. The author comes to the conclusion that it was simply impossible for the lying-in woman to have torn off the arm of her child as she said, as she would have not only required to have pulled upon the prolapsed arm, but to have grasped it above the elbow and dragged it backwards, as there was no sign of injury to the anterior part of the vulva. He believes that the irregular midwife who was first called in had torn off the arm, and that the patient had incriminated herself to screen the other.

ON PUERPERAL FEVER.—In the same number an abstract of a paper by Gusserow, published in the *Berliner Klin. Wochen.*, No. 32, 1882, with the above title, is given. [This abstract, as it embraces the matured views of an accurate observer of large and very varied experience, we translate in full for the benefit of our readers.—A. M.] The author, in his contemplation of the subject, starts with his present sphere of official activity, the midwifery institution of the Charité Hospital, and reports how, in spite of unfavourable conditions, the puerperal mortality has from year to year diminished, though in the sphere of his former duty, under essentially better conditions, he had never succeeded in attaining a similar result. Accordingly, in his view, we should no longer lay so great importance upon the site and construction of a lying-in institution, and we should no longer be necessitated to make so wide-reaching demands in this respect. On the whole, in reference to puerperal fever, we still stand on the standpoint of Semmelweisz. Puerperal fever is an infectious disease, which arises from wounds in the genital tract. Whether we ought to regard all feverish diseased states in the lying-in period as infectious is doubtful. If we answer it in the affirmative, we prefer simplicity of view to clearness. Etiologically we must at all events distinguish two chief groups of feverish diseases in the lying-in period. The one group are excited by putrescence-producing elements in the atmospheric air, and the action of these on the dead organic matters of the genital canal (blood coagula, shreds of membrane, remains of placenta, crushed wounded surfaces). There is produced putridity, absorption, and fever. With this fever other local diseases are seldom conjoined. The most common complication is, however, parametritis. The septic wound diseases, the real puerperal fever, arise from a poison which, when introduced into the living organism, rapidly multiplies in it, and produces the symptoms of simple septicæmia if it is taken up in sufficient amount or in special intensity, or, in other cases, the progressive diseases (the lymphangitic form, or the pyæmic form). At the beginning of the illness the distinction between these two chief forms is not always easy to make; this must be effected by further clinical observations. Furthermore, we require more extended investigations to determine whether putrescence-producing elements (Faulnisserreger) under certain conditions can actually produce sepsis, so that, for example, real puerperal fever should be produced by putrid decomposition of thrombi in the placental site. In reference to prophylaxis, the author regards exemplary cleanliness as the chief measure. Disinfection he holds as a valuable aid, but not by any means completely reliable. In all the lying-in hospitals managed by him he has succeeded by the most scrupulous cleanliness in reaching the same favourable results every time, whilst, according to the fashion of the day, disinfection has been constantly changing. He holds it, moreover, as especially important to express these views of his, because here and there, especially in private practice, the idea has crept in that with the free use of carbolic acid everything necessary is accomplished. In this matter especially the midwives are to be carefully looked after (so long as we have none better than the present class). By the example of the physicians, cleansing and disinfection must constantly be brought before their eyes; we must supply them with carbolic acid gratuitously, and only gradually remove it entirely from the nursing of lying-in women, at least of those that are diseased. The prophylaxis employed at the

Charité Hospital, in respect to the disinfection of physicians, nurses, and pupils, differs not from those formerly employed. In respect to the parturient women it is as follows: cleansing of the genitals, washing out the vagina with a weak carbolic acid solution, a bath when possible. In case of frequent examinations, repeated vaginal douches; after delivery, a thorough washing out of the vagina. After entering the cavity of the uterus for operation, or after the birth of a putrid fœtus, similar washing out of the cavity of the uterus. During the lying-in week, vaginal washes twice daily to remove the discharge, which, on the one hand, is readily liable to putrefy, and, on the other, if it does not putrefy, may be reabsorbed. After introduction of infection, the infected wounds of the internal genitals and in the vagina, as far as they can be reached, are touched with fuming nitric acid. To this treatment there is added powerful disinfectant washings out of the vagina and of the uterus so long as the disease is limited to the inner surface of the womb. We are to abstain from all other manipulations in a normal as well as in the abnormal lying-in period. The special treatment of childbed fever is confined to the management of the fever (baths, alcohol, wine) and the execution of such surgical procedures as may turn out to be necessary.

CERTAIN PROOF OF THE SO-CALLED UTERINE MILK IN MAN.—Under this title G. Von Hoffmann contributes an interesting article to the subject of placental physiology to the *Zeitschrift für Geburtshülfe und Gynäkologie*, Bd. viii. Heft 2, S. 258. The author supports the views of those who, like Ercolani, maintain that even in the human species the placental villi do not project freely into blood-spaces in the maternal part of the placenta, but are always covered with the milk-secreting organ, which is developed in the upper layers of the serotinal decidua during pregnancy. The sinus system, as it is called in the human subject, is, according to our author, made up of this milk-secreting organ. But in consequence of the dilatation of its walls in the course of development some maternal capillaries become thinned and burst, so that permanent lacunæ are formed, through which maternal blood enters the sinus and mixes with the uterine milk secreted from its walls, which are, of course, made up of altered decidual surface. This maternal blood and uterine milk is absorbed by the fœtal villus for the nourishment of the fœtus. The method adopted by the author to prove his theme is not so much an anatomical as a physiological one. He provided himself with fine capillary lymph-tubes. Then, laying the fresh placenta flat, with the maternal aspect upwards, and wiping its surface very carefully with a sponge, he introduced these tubes, some obliquely, some perpendicularly, to a distance of from 1 to 1½ centimetre. The intention was that these tubes should penetrate the placental tissue so as to pass between the fœtal villi and pierce the intervillar spaces, extracting from the latter part of their contents by capillary attraction. In this way the author made observations on 40 fresh placentæ obtained at the end of pregnancy, and on those obtained from many abortions at various months. He found the fluid thus obtained consisted of—1. Red blood-corpuscles of various sizes and forms. 2. Colourless blood-corpuscles, somewhat larger than usual, but not in large quantity, being only about 1 or 2 white in 100 or 200 red corpuscles. 3. Uterine milk-cells. These occupied by far the greatest amount of space, and his view of their nature he supports by comparison with the fluid found in the cow's placenta. 4. Free intercellular fluid, clear as water. Less constant constituents of this fluid were—5. Decidual cells, floating freely, with nuclei and nucleoli. 6. Small round bodies, probably derived from red blood-corpuscles. 7. Small particles, or detritus, often coloured red. 8. High-coloured pigment-cells. 9. Certain irregularly formed azure-blue bodies. The fluid obtained in this way, on being collected in quantity and allowed to stand in a small test-tube, separated constantly into two layers, the upper layer being invariably formed of the uterine milk mixed with blood serum, the lower consisting essentially of red blood-corpuscles. The author compares the fluid thus obtained from the human placenta with that obtained from the cow's placenta, and finds that the elements he ascribes to the uterine milk are essentially the same in both, but that in the human placenta a considerable amount of blood is mixed with the milk, whereas in the cow scarcely any blood-cells are found. The author's results are finally formulated by him in the following propositions:—1. The destiny of the decidua in general in animals, as well as also specially in man, is that of affording to the fœtus, during its intrauterine life, a portion of the nourishment necessary to its growth. For the fulfilment of this task the serotina or decidua placentalis is transformed into a special milk-secreting organ, which is thrown off after delivery along with the placenta as an integral portion thereof. 2. The secretion of this organ, the so-called uterine milk, is secreted into the gradually formed spaces in which the placental villi are situated. Here the uterine milk is commingled with the cotemporaneously extravasated maternal blood, and, taken along with the latter, represents the fœtal nourishment which only now appears suited for being absorbed by the fœtal villi. 3. From the standpoint of comparative anatomy, the view of an essential difference between the placentæ of the higher orders of animals and man is no longer tenable in the sense hitherto accepted, according to which an entirely separate position has been assigned to the human placenta in the scale of development. The author postpones for a future work the consideration of how the absorption of the fœtal nourishment by the villi takes place, as well as other matters therewith connected.

ON THE MOVEMENTS OF THE UTERUS.—This is the subject of a long article by Dr Frommel in the same journal, page 205. The results are derived by him through experiments on rabbits by means of a rather complex mechanism. The effects of the experiments, 62 in number, were graphically marked by the apparatus on a revolving drum. We translate his results from the abstract of the paper by Schutz, contained at page 747 of *Centralblatt für Gynäkologie* for 1882. The uterus makes rhythmical contractions, which are discharged from it spontaneously. It possesses this capacity in all stages of its development, although the movements in pregnant animals and in such as have given birth are more regular. This normal functional capability of the uterus continues to persist in normal temperatures of the body only. Marked diminution in temperature prolongs the contraction without diminishing its energy; a slight increase hastens the contraction; a greater—from 103° to 109°—completely arrests it. Disturbances of the circulation have likewise a very important influence upon the movements of the uterus. Compression of the aorta stops them after a short time; that of the vena cava after a longer time—15 to 30 minutes. The experiments undertaken with reference to the innervation of the uterus resulted in showing that the movements of the uterus were not dependent upon a centre lying outside itself, although it may naturally receive impressions from the cerebro-spinal system through its connexion with the same.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

IODOFORM HYPODERMICALLY IN THE TREATMENT OF TERTIARY SYPHILIS.—In secondary syphilis hypodermic injections of iodoform exercise a beneficial effect on the exanthemata, affections of the mucous membranes, and where injected in the immediate vicinity of the lymphatic glands they too improve. The effect produced in tertiary forms is, however, more striking, for, as a general thing, preparations of iodine are more indicated. The quantity for each injection varies from 0·50 to 1·50. Such large doses are borne with impunity. It is advisable to begin with 0·50 suspended in glycerine; on the third day increase to 0·75; on the seventh day increase to 1·0; on the fifteenth day to 1·50; and when this last quantity is injected one to four times discontinue all medication for a week; then if necessary resume the injection. About 15 grms. is sufficient in most cases to reduce ulcers of larynx, tibia, periostitis, etc., as is shown in several cases reported in full (Ed. Thomann, *Gratz. Centralbl.*, No. 35, 1882).—*Therapeutic Gazette*, October 1882.

URTICA DIOICA (common nettle).—*Urtica dioica* is an invaluable remedy in hæmorrhages, uterine or pulmonary. It was highly commended by Boucharduts in *Résumé of Medicine*, translated by Dr De Rosset some ten years ago. I have used it extensively. It is used in the form of fluid extract —T. A. Anderson, M.D., *Therapeutic Gazette*, October 1882.

Jaborandi Poultice for Inflammation.—Dr Stetman, in the quarterly *Proceedings of the Lancaster County Medical Society*, reports several cases of incipient inflammation of the mammary gland and of buboes, and in a parotid swelling of mumps, where good results followed the application of a poultice made of one part of Jaborandi leaves (softened by maceration with hot water) and two parts of flax-seed.—*Therapeutic Gazette*, October 1882.

Boro-Glyceride.—This recently discovered combination has been exciting considerable interest both as a medicine and as an economical agent. Its antiseptic properties are said to be very remarkable, and its value as a preservative of meats is such as to promise a revolution in the old time methods of curing animal foods. The method of its preparation is to heat 92 parts of pure glycerine to about 300° F., and then to gradually add to it 62 parts of boracic acid. The heat is to be continued until the steam which is generated has completely escaped, which owing to the viscidity of the melted mass requires a day or so. Thus produced, boro-glyceride when cooled off is a brittle and translucent solid of an amber colour, freely soluble in water and sparingly so in cold alcohol, while choloroform and ether at ordinary temperatures do not affect it. Boro-glyceride was first brought to notice by Professor Barff, who shipped fresh meat soaked in it from the Falkland Islands to England, arriving there perfectly fresh. It has little if any taste, and thus does not materially impair the flavour of the articles which it is employed to preserve. A Mr M'Elhenie, in a recent paper, gives other instances of its preservative property. He found that two eggs mixed with two drachms of a ten per cent. solution were fresh at the end of a month, and that the juice of two pounds of beef was kept fresh for the same time by being mixed with ℥ss. of the boro-glyceride of the same strength. An agent of this nature can scarcely fail to prove of great value in medicine, and particularly in surgical dressings. Boracic acid alone was highly extolled by the late Professor W. W. Greene, of Portland, Maine, and glycerine is, of course, well known for its antiseptic properties, but the compound of the two is said to possess more power than would be expected from their united properties. Boro-glyceride melted and mixed with an equal weight of glycerine remains fluid on cooling. A five per cent. solution has been found to be unaffected by tannin, the mineral acids, or the astringent preparations of iron, and the applicability of such combination, by means of the spray atomizer, to wounds or to diphtheritic membrane naturally suggests itself. The great recommendation of the new compound is it innocuousness, and this will remove from it any objection to its thorough trial.—*Therapeutic Gazette,* October 1882.

CHINOLINE IN DIPHTHERIA.—Dr Otto Seifert has used the following as a topical remedy in diphtheria:—

Chinoline,	gr. xv.
Distilled water,	Oj.
Alcohol,	℥j.
Oil of peppermint,	gtt. ij. M.

He uses it as a gargle, and also applies by means of a brush or swab a solution of equal parts of water and alcohol with five parts of pure chinoline in solution. He thinks that it loosens the membrane in from twelve to twenty-four hours, and that the glandular swellings subside and the temperature is reduced more quickly than under other treatment.—*New Remedies,* December 1882.

CHINOLINE (C_9H_7N) may be prepared from various substances. It is a transparent, colourless, mobile oil. It has strong refracting properties. It has an odour like that of phosphorus and of hydrocyanic acid. It is very sparingly soluble in cold water, rather more in hot water, and mixes freely with alcohol, ether, and oils.

PERISCOPE OF OTOLOGY.

By Dr KIRK DUNCANSON, Surgeon to the Ear Dispensary, 6 Cambridge Street; Assistant-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

FOREIGN BODIES IN THE EAR.—Mr Lyddon reported to a meeting of the Norwich Medico-Chirurgical Society, held on Tuesday, 5th December 1882, a case of removal of foreign bodies, after being twenty years present, from the external auditory meatus. From one ear a pearl button, and from the other an iron dress-hook, were removed by iridectomy forceps. No structural change had taken place in either ear, and the hearing was perfect.

DEFORMITY OF LARYNX.—Dr Lees exhibited to the Pathological Society of London, at a meeting held Tuesday, 5th December 1882, the larynx of an infant aged 12 months, which had during its whole life manifested a peculiar noisy respiration. The condition found threw light upon a set of cases of rare occurrence but of considerable interest, which presented the following symptoms:—An infant, almost invariably of the female sex, suffered from the moment of its birth from a noisy inspiration, expiration being much less affected or entirely free, and the cry-sound being quite clear. The noise made during inspiration is often loud and harsh; it was of lower pitch than the crow of laryngismus. It continued, though not so loud, during sleep and after the administration of chloroform. There was usually some recession above the sternum and slightly at the base of the thorax, but generally sufficient air entered the lungs. In some cases exacerbations were brought on by exposure of the surface to cold (when the chest was stripped), by flatulence, and other causes, but, as a rule, the condition was fairly constant. Perfect recovery ordinarily occurred after the lapse of a year or more. In this case the child died of insidious diphtheria. About a month before a laryngoscopic examination was made, and it was then seen that the epiglottis was folded on itself like a leaf on its midrib, the ary-epiglottic folds being thus brought close together, and the superior orifice of the larynx converted into a linear median slit of very small diameter. This condition was found after death to be actually present, the ary-epiglottic folds being almost in contact. Above them, below the centre of the folded epiglottis, was an opening of the size of a pin-hole, and between the arytenoids a second opening a little larger. The trachea was lined with diphtheritic membrane. The peculiar breathing thus appeared to be due to a congenital abnormality in the epiglottis. This was the fourth case which Dr Lees had seen. Similar cases had been observed by Dr Gee and by Dr Barlow, but they had not yet been published; and Dr Lees believed that this was the first post-mortem examination which had been obtained, and also the first time the cause of the obstruction had been ascertained during life.

OPERATIVE TREATMENT OF OZÆNA.—A paper on the operative treatment of ozæna was read by Mr R. Clement Lucas before the South London District Metropolitan Counties Branch of the British Medical Association at their meeting, 24th November 1882, in which he stated that when, as often happened, ozæna depended on diseased bone which could not be extracted through the nostrils, there were two ways in which the cavity might be explored and the anterior aperture so enlarged that pieces of bone of considerable size might be extracted. One of these (Lawrence's operation) consisted in raising the nose by incisions on each side, and then, if necessary, dividing the nasal process of the superior maxilla and nasal bones with forceps. The other (Rouge's operation) consisted in raising the upper lip and nose together. It was greatly to be preferred, as it left no scar; but there were still cases, such as malignant polypi, for which Lawrence's operation might be retained. —*British Medical Journal*, 16th December 1882.

TREATMENT OF MÉNIÈRE'S DISEASE.—Dr Grazzi, in an article (*Gazetta degli Ospitali*) on this subject, extols the use of quinine. He gives the valerianate in combination with extract of aconite. At first the noises in the head are made worse by the treatment, but after a short time great improvement takes place. In 1875 Charcot recommended quinine in the same disease. He gave from 7 to 15 grains daily for two months and a half.—*British Medical Journal*, 6th January 1883.

UNILATERAL PARALYSIS OF THE SOFT PALATE.—Dr Walter Smith related two cases of paralysis of the left half of the velum palati, and raised the question whether paralysis of the palate was invariably to be regarded as a characteristic sequela of diphtheria, or whether it might not occasionally supervene upon non-diphtheritic forms of angina. Case I. occurred in a young lady aged 24, and the paralysis developed six weeks after an apparently simple ulcerated sore throat, for which she had been treated by Dr Smith. Case II., in a young lady aged 26, was affected with what was considered to be a simple relaxed sore throat unattended with ulceration. She remained in a weak and nervous condition, and shortly afterwards the left half of the palate was found to be paralyzed. In each case the symptoms were similar, viz., difficulty of swallowing, nasal twang in the voice, and regurgitation of fluids through the nose. Both cases recovered completely. Dr Smith submitted that it was not unreasonable to hold that catarrhal sore throat might now and then give rise to slight motor paralysis through partial implication of the nervous system or otherwise. Dr Henry Kennedy said that diphtheria might exist without exudation. He had seen such cases in which paralysis followed. Dr Henry related a case which he had observed corroborating Dr Smith's views. Mr H. G. Croly said that the large majority of cases described as diphtheria were really cynanche. Mr William Thomson asked, if paralysis occurred in the palate as the result of specific inflammation, why similar effects did not follow in other parts of the body where nerve filaments were concerned. Dr J. W. Moore alluded to the specimen which he exhibited, describing it as one of phlegmonous erysipelas of the throat in which diphtheritic conditions had supervened. He believed that paralytic symptoms occurred only in true diphtheria. Dr Finny considered that the fact that other diseases were associated with paralytic symptoms confirmed Dr Smith's view. Mr W. Stokes doubted that paralytic symptoms followed inflammation in other than those of a diphtheritic nature. The president, Dr William Moore, regretted that no information had been given as to the presence of albumen in the urine in Dr Smith's cases. Dr R. A. Hayes mentioned, in support of Dr Smith's view, a case in which chronic inflammation of the palate, resulting from excessive tobacco-smoking, gave rise to paralysis of the palate. Dr Walter Smith, in reply, said that the paralysis in these cases might be the result of myelitis or of muscular degeneration. He answered Mr Thomson's question by pointing out the rich nervous supply of the palate, and the muscles being open to attack from both sides.—*Academy of Medicine in Ireland, Meeting of Medical Section of* 8*th December* 1882.

"BOXING HIS EARS."—A blow over the ear may cause, in a moment, irreparable damage to a healthy ear. In a diseased ear it is still more likely to set up fatal mischief; and how frequent disease of the middle ear occurs in children is only known, in the absence of any trustworthy statistics, to those who see much of the children of the poor. Long-continued suppuration of the ear leads very frequently indeed to disease of the mastoid cells and of the petrous portion of the temporal bones, and to absorption of the thin layers of bone which separate the ear and its connected cavities from the cavity of the cranium and other highly important and vital organs, such as the carotid artery in the carotid canal, the sinus transversus in the fossa sigmoidea, etc. A blow upon the ear in this condition of chronic inflammation may, and often does, lead to acute inflammation of the ear, and that again to blood-poisoning, or to inflammation of the membranes of the brain, or thrombosis, or abscess of the brain—complications frequently fatal, some of them, indeed, invariably so. Even if the inflammation stop short of this, such damage may be done to delicate structures as may render the ear useless as an organ of hearing, and a never-absent source of danger. A striking instance of the truth of these remarks is afforded by the history of the illness of the late Lord Justice Thesiger, who died a little more than two years ago. He had had scarlet fever when two years old, followed by inflammation of the left ear and partial deafness on that side; no serious results, however, were seen for many years, and a brilliant career seemed to be before one of the youngest judges who ever sat on the bench, when, while bathing one day in a rather rough sea, a wave violently struck the diseased ear; this set up fresh mischief, the area of inflammation extended, and eventually the patient died of pyæmia. His death was thus distinctly traceable to the blow on the ear from the wave and the entrance of sea water into the tympanum through the old perforation in the drumhead. The ear, it is true, had long been diseased, but so slightly that it had not interfered with rapid forensic success. In reference to the case of the late Lord Justice Thesiger, Dr Dalby, aural surgeon to St George's Hospital, writes: "His was not the only case where I have known pyæmia or cerebral inflammation set up by mainly the same causes, and I have seen hundreds of instances in which acute inflammation of the tympanum, when the drumhead has been perforate, has been produced by bathing in the sea. For many years I have always warned patients (or their parents) of this risk whenever there is a perforation of the tympanic membrane. Sea water seems to have a peculiarly irritating effect upon the lining membrane of the tympanum, and especially when the perforation is of so small a size, or so situated, that the fluid which has once entered cannot all escape again." Dr James Carmichael of Edinburgh also writes regarding a "box on the ear" of a patient of his, aged 12, who, nine months previous to his death, returned from school with a "bleeding ear," having received a blow on the ear from the schoolmaster. He did not suffer much at the time. The bleeding soon ceased, but ever afterwards he had a "running ear." Ten days before his death the doctor found him suffering from serious cerebral symptoms which, after a few days' observations, were considered due to cerebral abscess. After death this was confirmed by an abscess being found situated in the temporal region on the left side. The petrous portion of the temporal bone was carious, and a probe passed readily into the internal ear, the structures of which had been entirely destroyed by suppurative internal otitis.—*British Medical Journal*, 9th December and 23rd December 1882, pp. 1167, 1249, and 1250.

OCCASIONAL PERISCOPE OF DERMATOLOGY.

By W. Allan Jamieson, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

The Old Age of the Skin.—The skin in old age always undergoes some surface changes due to senile degeneration of its tissues, which may be considered normal; for the natural processes of decay or degeneration are as much under physiological law as those of growth and repair. It is also liable to certain special diseases caused by alterations in its structure and functions more or less peculiar to this period of life. The hair follicles generally are the earliest to exhibit such indications, either in the direction of failure to produce pigment in the cells of the hair shaft, or in ceasing to form hair tissue at all. But senile degeneration of hair may show itself in middle or early life as premature grayness or baldness, an indication of gradual race extinction of hair on those parts of the body also, where it still attains its full development. Premature loss of hair from simple decline of vitality in the power of reproduction in the follicles of the scalp is often coincident with the first period of the most vigorous growth of the beard in full manhood. The appearance of the skin in an old person differs from that of infancy and adult life in various ways.. It is generally thinner, drier, paler, rougher, more wrinkled, and in parts inclined to exhibit discolorations and excrescences. The roughness is due to a change in the character of the epidermal cells, by which they lose the power of individual desquamation and collect in excess in places, like reptilian scales. This is especially noticeable upon the backs of the hands and face, particularly in persons who have been much exposed to the varying influences of out-of-door life. Masses of epidermic cells accumulate, mainly on the face, hands, and upper part of the chest. This is accompanied by excessive formation of pigment. The scaly and rough skin is dry and inelastic, from a want of activity of the cutaneous glands. The sebaceous glands may atrophy or become cyst-like. The sweat-glands, though their functions are often greatly diminished, are usually found but little changed in structure. The dryness of the surface, with loss of elasticity, due to changes in the corium beneath, dispose the skin to chap easily and to become excoriated under trivial injuries. The uniform pallor of the skin in advanced age is due to the diminished driving power of the heart and the atrophy of the capillaries and vessels connected with the glandular structures. This pallor is interrupted here and there by a marked enlargement of the superficial arterioles. The beautifully serene look of repose of this period of life, poetically attributed to a mind at ease, is in no small measure the result of such changes in the texture of the skin. The thinning of the skin is due to a shrinkage in all three of its layers, with absorption of fat, flattening of the papillæ, lessening in distinctness of the fibres of the fibrous tissue, and granular infiltration. In another form of degeneration the whole fibrous skeleton of the corium is converted into a structureless, brittle, hyaline-like mass. With the loss of elasticity and plumpness due to these changes the skin shrivels or is drawn into small wrinkles or furrows and ridges from the action of its muscles. There are some pathological processes characteristic though not peculiar to this period of life, which may be noticed more particularly. One of these is *Pruritus senilis.* There are no perceptible changes in the structure of the skin. The itching or burning sensations have marked exacerbations, generally most pronounced towards night. Undressing aggravates them. Sometimes the scratching indulged in in the effort to obtain relief is performed with such intense frenzy that a pitch of general nervous excitement is reached resembling the sexual orgasm, and followed by a like reaction and profound exhaustion. The sleeplessness and constant peripheral nerve agitation attendant upon this disease may eventually lead to disturbances of the central nervous system and intellectual faculties, and thus react upon the whole economy. The disease is greatly aggravated during the winter season, as are other forms of pruritus, owing to the drier atmosphere, the overheated house, and rougher texture of the clothing worn next the skin. The treatment of pruritus senilis does not differ from that in other forms of this neurosis of the skin. All grades of eczema may demand their appropriate care before the case is reduced to one of simple pruritus, and sometimes mechanical aids to self-restraint are absolutely necessary in order to obtain any degree of control over it. Among the most reliable antipruritic remedies in this affection are carbolic acid, tar, chloral hydrate, camphor, corrosive sublimate, and hydrocyanic acid. These in various combinations are to be applied in the evening in anticipation of the nocturnal exacerbation, and repeated during the night, but not to such an extent as to interfere with their subsequent use by causing too much irritation of the skin. If this be brought about, some soothing salve, as cold cream or mild oxide of zinc ointment, should be employed to allay it. No hot drinks are to be allowed—tea or coffee, that is, are to be drunk lukewarm—nor any alcoholic liquors after the noon meal. The habit of taking whisky at bedtime to produce sleep is especially to be prohibited. The feet should not be warmed at the fire, but, if necessary, by a foot-bath. The thinnest old linen or cotton garments should be worn next the skin. *Purpura senilis.*—The vessels share in the general enfeeblement of the cutaneous structures in old age. The purpura met with in senescence does not differ from the simple forms of the earlier periods of life save in its more persistent recurrence. Internal hæmostatics have little influence in overcoming the tendency to local hæmorrhage at this age, and it must be controlled mainly by such mechanical agencies as rest in a horizontal position for the legs, and the constant use of the elastic stocking or rubber bandage. *Disorders of the Sebaceous Glands.*—A false pigmentation is sometimes produced by the sebaceous glands, which, when retaining their activity late in life, often secrete in some parts a modified sebum of a cheesy consistence, which forms upon the scalp a continuous firm coating, gradually changing, by the retention of dirt, to a brownish or black colour. Similar concretions may form also about the openings of the glands of the face, which may attain a considerable thickness, and give rise to bleeding if removed with violence. These may bear a resemblance to epithelioma. To remove and prevent them, if on the scalp, preliminary softening with oil is needed, followed by washing with solution of soft soap in alcohol, thorough rinsing with warm water, and inunction with vaseline. This must be repeated daily till the accumulation is entirely removed and ceases to form again. Afterwards the scalp must be washed often enough to keep it active and clean. On the face and other parts the concretions may be smeared at night with an ointment of ammoniated mercury 20 grains, vaseline ℥j., and treated in the morning with oil and soap as the scalp. This must be continued till the glands involved return to their healthy action. *Keratosis senilis* has been described by Neumann as *Keratosis pigmentosa*, but the pigmentation, though highly characteristic, is not always present; and by Hebra and Kaposi as *Verruca senilis*, but the papillary hypertrophy, the essential element of warty growth, is generally absent. It first shows itself as irregularly circular collections of scales, scarcely elevated above, but rather darker than the surrounding skin. Most abundant on the upper half of the face and backs of the hands, they may also appear on the forearms and chest. Gradually increasing, in their most advanced condition, they present elevations the eighth of an inch above the general surface, consisting of dry, horn-like scales, which vary in colour from the faintest yellow to the deepest black, which, when removed with a little violence, leave a superficial excoriation. According to Neumann, the underlying and adjacent tissues present the ordinary aspects of senile atrophy with granular pigment accumulated about the vessels. The sebaceous glands are often enlarged, their orifices obstructed, and project in wart-like eminences when the superimposed epidermal scales are removed. They rarely appear before the age of fifty in numbers, and are seldom very conspicuous before sixty-five or seventy. They are much less likely to develop in persons who have kept their cuticle and sebaceous glands in proper order through life by a sufficient use of soap, than upon those who have neglected this custom. The prognosis of such simple collections of epidermal scales is favourable if treatment be commenced in good time; but the most simple changes in the cutaneous tissue of the face in old people are always to be regarded with suspicion. This affection is a common starting-point of epithelioma. In the earliest stages the alternate use of soap or solution of soft soap in alcohol, and softening with oil, is sufficient to restrain the tendency to accumulation of epidermal scales. If any excoriations are produced, they may be protected by a patch of cloth spread with diachylon ointment till healed. If the epidermic masses are unusually prominent, or if the sebaceous glands are involved to any great degree, severer measures are called for. Concentrated nitric acid may be repeatedly, if necessary, bored into the underlying tissues with a sharply-pointed stick, or the sharp spoon or curette may be used to scrape out at once the diseased elements. —Dr James C. White, in *Boston Medical and Surgical Journal*, November 23, 1882.

PERISCOPE OF STATE MEDICINE.

By James Allan Gray, M.D. Edin., F.R.C.P.E.

Death from Secondary Hæmorrhage after Wound of the Coronary Artery.—On the 10th October 1882 an insane Frenchman rushed through Fourteenth Street, Boston, which was at the time crowded with ladies shopping, and assaulted with a sharp-pointed compass all the females at whom he could get a chance, and one of his victims, the wife of a police officer, has since died in consequence of the injuries thus received. At the autopsy it was found that death was due to secondary hæmorrhage. The wound was directly over the fifth rib, and the point of the instrument was found to have entered the wall of the heart and pierced a branch of the coronary artery. It seems that on the 15th, five days after the wound was inflicted, hæmorrhage set in, and caused death by filling the pericardial sac with blood and producing collapse. In speaking of this rare occurrence, the deputy coroner, Dr Philip E. Donlin, remarked, "I know of no case of death by secondary hæmorrhage due to an injury of the coronary artery. When the compass was being withdrawn the artery must have been twisted, and thus immediate hæmorrhage did not occur. After several days, however, the woman, who had suffered only from shock while in the hospital, became more active, and the renewed pressure on the artery caused by her thus moving about, in addition to the changes taking place in the process of reparation, opened the vessel afresh, with the result of fatal hæmorrhage." In another case that Dr Donlin recalled, the patient went about for a week with a bullet in his heart, but in this instance the immediate cause of death was shock, and not hæmorrhage.—*Boston Medical and Surgical Journal*, 26th October 1882.

A CASE OF IODISM.—Dr J. R. Weist relates a case where alarming symptoms supervened on the administration of a single dose of eight grains of iodide of potassium. The patient was a well-developed female, unmarried, twenty-eight years old. Syphilis was apparently suspected, and a mixture containing iodide of potassium and syrup was ordered. One dose of the medicine, containing eight grains of the salt, was taken at 8 P.M. In less than an hour disagreeable symptoms appeared about the mouth and throat; these increased in severity, and new ones were added. At 11 P.M. the symptoms became alarming: the pulse was 60 and full; the axillary temperature 95° F.; face pale; slight œdema present over nearly the entire body. The face was markedly œdematous, especially the upper eyelids, which were so swollen as to render opening the eyes impossible. There was an abundant secretion of viscid saliva, from which the mouth was cleared with great difficulty. The mucous membrane of the nose was so swollen as to make it impossible to force air through the nasal passages. The lips, tongue, uvula, and soft palate were all greatly enlarged. There was nausea, but no vomiting, and much pain throughout the entire abdomen. Respiration was greatly embarrassed, apparently because of œdema of the laryngo-tracheal mucous membrane. The patient would every minute start up in bed and toss the arms wildly about in her struggle for breath. The articulation was so impaired that it was with difficulty she made herself understood. The hypodermic use of a ¼ grain of sulphate of morphia greatly relieved the respiration, and in three hours the injection was repeated. The symptoms of poisoning gradually disappeared, although at the end of twenty hours after taking the iodide there was still great suffering, the eyelids presenting great swelling. In seventy-two hours all the apparent effects of the medicine had disappeared. As a matter of experiment, this patient, one week after her recovery, was given *one grain* of potassium iodide, and in two hours all the symptoms recorded above, but in a much less degree, were present. These disappeared within twelve hours. A quantity of the medicine but little greater than the dose first prescribed would, in the opinion of the author, have destroyed the patient.—*American Practitioner*, quoted in the *Boston Medical and Surgical Journal* for 26th October 1882.

POISONOUS COLOURS.—Dr J. Woodland writes that, having had his attention directed to several cases of great irritation of the feet and legs, causing small pustules to arise and the skin to subsequently exfoliate, and suspicion being fastened upon red stockings which the patients wore, he carefully analyzed them. He found a tin salt which is used as a mordant in fixing the dye. He succeeded in obtaining as much as 22·3 grains of this metal in the form of the dioxide; and as each time the articles are washed the tin salt is rendered more easily soluble, the acid excretions from the feet attack the tin oxide, thus forming an irritating fluid.—*The Lancet* for 8th July 1882, quoted in *The Sanitary Record,* 15th December 1882.

POISONING BY APOMORPHIA.—Dr Pécholier, Professor in the Faculty of Medicine of Montpellier, gives an account of his poisoning with this substance. Overworked and enfeebled physically by the milk diet which he had adopted for the preceding three months, Dr Pécholier began to suffer from a very painful attack of rheumatic sore throat. During seven days he treated himself successively by salicylate of soda in doses somewhat larger than usual (6 grammes at first, and 4 grammes at each of two other doses), by injections of morphia, and by the application of leeches to the neck. Not finding relief, he had recourse to an injection of about 13 milligrammes ($\frac{1}{5}$ grain) of apomorphia. At the end of two minutes he was seized with very severe nausea without vomiting; respiration ceased completely, but returned in an irregular fashion, and left a state of inexpressible anguish. The colleagues of the patient, who were brought in great haste, gave a second dose of apomorphia, which caused vomiting followed by fresh collapse, lasting from thirty to thirty-five minutes, during which time the respiration remained infrequent and stertorous, the pulse feeble and irregular, and the face livid. The application of sinapisms and a subcutaneous injection of sulphuric ether brought the patient out of this condition. In the evening there remained merely traces of the effect, and at the end of four days the angina itself had almost entirely disappeared. As to the cause of this unexpectedly energetic effect of the apomorphia, Dr Pécholier thinks that the existing anæmia and the other circumstances mentioned above are more to blame than the morphia or the salicylate of soda, although the latter was taken too freely. In his remarks he calls attention to the close connexion between the centres for vomiting and respiration in the medulla as explaining very satisfactorily the action of apomorphia on the respiration. In conclusion, he recommends caution in the use of the drug and in the employment of the hypodermic method.—*Annales d'Hygiène,* August 1882, p. 185. *Note.*—In connexion with this subject there appeared in the *London Medical Record* (August 1882, p. 318) a notice by Dr Idelson of two cases reported by Rosenblum (*Proceedings of the Kaluga Medical Society,* 1881), where sudden failure of the heart's action and death occurred in boys aged 8 and 6 years, after the hypodermic injection of $\frac{1}{30}$ to $\frac{1}{25}$ of a grain of apomorphia. In both cases the emetic action had been absent. Dr Idelson thinks some reasonable suspicion may be allowed in regard to the purity of the drug used; and certainly these deaths are remarkable enough to warrant such suspicions, and, moreover, to compel caution in the use of the drug.

THE PTOMAINES, OR CADAVERIC ALKALOIDS, IN OYSTERS AND MUSSELS.—M. A. Gautier believes the ptomaines to be the result of the reduction of the albuminoids of the tissues, and, being thus led to search for them among the products of the secretions of the special glands of certain animals, has demonstrated their presence in the poison of reptiles. Following up this idea of the physiological formation of these compounds, Gautier has found in normal human saliva a very poisonous substance, acting especially on birds, which it stupefies profoundly. Schlagdenhauffen, founding on these results of Gautier, has searched for the cadaveric alkaloids among the lower animals—employing the oyster and common mussel for his observations. The animal, after being detached from its shell, is deprived of the greater part of its tissues, leaving only the central organ, stomach, and liver for examination. These are pounded in a mortar with sand which has been previously washed with acid and calcined. After complete drying over a water bath this is then treated with warm ether, and the ethereal solution evaporated to the consistence of extract. The extract thus obtained contains a considerable quantity of fatty matter mixed with chlorophyll, the presence of which is easy to detect, either spectroscopically or by means of its reaction with concentrated hydrochloric acid. Next the extract is exhausted with water without the addition of acid, and the aqueous solution evaporated. This, when tested, presents all the characters of the cadaveric alkaloids, giving a yellowish white precipitate with the double iodides of mercury and potassium and of cadmium and potassium, a brown precipitate with the biniodide of potassium and the double iodide of bismuth and potassium, and abundant precipitates with picric acid, phosphomolybdate of soda, and tannic acid; it also forms Prussian blue with ferrocyanide of potash and chloride of iron. The hypodermic injection of this material into frogs stupefies the animals without killing them. Schlagdenhauffen therefore concludes from his experiments that molluscs contain compounds analogous to the vegetable alkaloids. Of their origin he would find the explanation rather in a transformation of the matters of the alimentary canal than in a reduction of the albuminoids of the tissues. It will be interesting to know whether these ptomaines are present in animals in greater quantity in certain physiological conditions than in others, or whether their toxic action is more pronounced in summer than in winter. Schlagdenhauffen therefore purposes to return to this subject at a later date, in order to seek the cause, yet disputed, of the danger which attends the ingestion of oysters and mussels at certain seasons of the year.—*Journal de Pharmacie d'Alsace-Lorraine*, quoted in *Journal de Pharmacie et de Chemie*, August 1882.

BANG VERSUS ALCOHOL.—Under this title is to be found at page 1323 in the *British Medical Journal* for 30th December 1882, a *résumé* of the conclusions reached by Dr R. Grieve, of the Colonial Lunatic Hospital at Berbice, regarding the influence of bang and alcohol on the continuance of the insanity induced by them. He noticed that of the creole patients admitted into the institution a majority had become insane through indulgence in alcohol, whereas of the coolie patients abuse of cannabis indica or bang was the cause of their mental trouble. Observation of individual cases and the statistics of the relative rate of recovery and the death rate in the two classes leads Dr Grieve to hold that the mental derangement springing from the abuse of Indian hemp is much less likely to cause gross structural changes in the brain, and is therefore much more amenable to treatment, than that occasioned by alcohol.

STRYCHNIA POISONING DELAYED EIGHT HOURS BY OPIUM.—Under this heading Mr Mecredy, M.B., C.M., relates a most interesting and instructive case. The patient, a stout, healthy-looking, well-developed woman of twenty-three years of age, and in the sixth month of pregnancy, took, according to her own statement, a packet of Battle's vermin-killer, and immediately thereafter 2 ounces of laudanum. Four hours afterwards she was first seen by Mr Mecredy, and was then unable to stand without assistance or to give any further account of herself than that she had taken poison with suicidal intent. Her face was pale and ghastly, and she presented in every respect the appearance of one suffering from opium poisoning, with the exception that the pupils were little, if at all, contracted. Copious emesis was induced by the free administration of sulphate of zinc, and maintained by draughts of hot water, coffee, and mustard-and-water. The vomited matter consisted of fruit, and had only slightly the odour of opium. Symptoms of strychnia poisoning did not begin until four hours after the patient was first under medical observation, and eight hours after the dose had been taken. The symptoms, which were greatly obscured by the effects of the opium, were at first slight, being in the form of clonic movements of the hands and in a lesser degree of the feet. Later they increased in extent and degree, extending to the arms, shoulders, and legs, accompanied by slight opisthotonos and considerable pain at the pit of the stomach, but with no trismus, and with but little twitching of the muscles of the face. Two hours after the twitching had begun, 40 grains of chloral were given, and an hour afterwards, when the symptoms of the opium had greatly disappeared, 30 grains of chloral were exhibited and a like amount given every hour for 3 hours. The symptoms of strychnia reached their maximum 5 hours after their commencement, and had almost completely disappeared 5 hours later, the patient being thus almost well within 18 hours from the time of taking the vermin-killer and laudanum. In his remarks on the case Mr Mecredy estimates the quantity of strychnia taken at a grain and a half, and calls attention to the delay in the appearance of the symptoms and to the antagonism between strychnia and opium, the former preventing the contraction of the pupils and the latter neutralizing, for a time at least, the effects of the strychnia on the cord. In conclusion, the practical bearing of the case is alluded to—opium being recommended for use more freely than is now the custom in cases of strychnia poisoning, where chloral, Calabar bean, or the other usual antidotes, are not at hand.—*The Lancet* 1882, vol. ii. p. 724. *Note.*—Tardieu's analysis of Battle's vermin-killer gives 0·10 of strychnia in 1·30 of the powder, or approximately 1½ grains of the alkaloid in the 19 grains of powder in the packet. This would give 1⅛ grain as the dose in the above case (since 5 grains of the powder remained in the packet untaken by the patient).

FACE POWDERS.—In the *Lancet* of 23rd December 1882 a warning is given against the statement recently circulated to the effect that "arsenic in small doses is good for the complexion," and practitioners are specially urged to warn the public against this pernicious practice, while being themselves on the *qui vive* in anomalous or obscure cases.

OCCASIONAL PERISCOPE OF SURGERY AND SURGICAL PATHOLOGY.

PERIPHERAL VASCULAR TONE.—It has been debated whether the vascular wall contains in itself the cause of its own rhythmic contractions, or whether the latter are to be regarded as dependent on a central innervation. Experiment has hitherto pointed to the latter hypothesis as the correct one; but more recently Luchsinger, after considerable research on the bat's wing, has come to a different conclusion. The veins in the wing of a narcotized bat continued to pulsate powerfully after all the structures (except the afferent and efferent bloodvessels) connecting the wing with the animal's body had been divided. Any sympathetic nerve twigs running along the vessels were destroyed by painting the surface with strong ammonia. Further, when, ten minutes after death, defibrinated filtered ox blood, of the temperature of the room, was passed through a cannula into the aorta of an asphyxiated bat from a height of 40–50 cm., the veins filled out and commenced to pulsate, and continued to do so for twenty hours. Luchsinger considers that variations in pressure determine the contractions. If the pressure was zero, the pulsations ceased although blood or salt solution was still flowing; but if the pressure was raised to 40–50 cm. (water), the veins soon commenced to expand and the rhythmic play of the vascular wall to show itself. The contraction is due to the irritation caused by the dilatation of the contractile wall.

Schiff, also, has recently made similar though independent experiments, and his results correspond with those of Luchsinger (B. Luchsinger, *Pflüger's Archiv,* 1881, B. 26).—Auerbach, in *Centralb. f. Chirurg.*

On the Changes in the Medullated Fibres of Divided Nerves.—Hudendorf sums up as follows:—In the *peripheral end* the myelin substance and the axis-cylinder degenerate; but the membrane of Schwann persists, and its nuclei become hyperplastic. In the *central end,* also, the myelin substance (white substance of Schwann) degenerates, but the axis-cylinder remains, and around it new myelin matter is deposited. With this the axis-cylinder grows into the connective-tissue which unites the ends of the divided nerve. Winding through the connective-tissue, the axis-cylinder finally enters the unaltered Schwann's membrane of the peripheral section (A. Hudendorf, St Petersburg).—Th. von Heydenreich, in *Centralb. f. Chirurg.*

Balle retrouvée dans le Larynx dix ans après son entrée dans la tête (Guérison).—In the battle of Artenay, on 2nd December 1870, the patient, whilst in the act of taking aim, and with the head bent towards the left side, received a shot in the head. The ball penetrated the left malar bone under the lower eyelid. There was loss of consciousness, then severe pain in the eye, and, in the course of a few days, dysphagia. During attacks of choking and coughing, splinters of bone were spat out from time to time, although no wound of palate or pharynx was discoverable. During the next two years the patient remained comparatively well; then came constant megrim-like attacks, severe pain in swallowing, ejection of purulent masses, feeling as of a foreign body at the top of the larynx, and, later on, evening rises of temperature with great emaciation and total aphonia. On laryngoscopic examination a black, irregular tumour, of the size and appearance of a small truffle, was seen occupying the left half of the cavity of the larynx: diagnosis, melanotic cancer. In a few days a feeling of resistance was encountered: diagnosis, osteoma melanodes. It was then resolved to grasp and excise the growth; but on the evening before the intended operation there was a severe suffocative attack, which only ended with the expulsion of an extremely irregular Prussian rifle-bullet. A red swollen area was now visible in the region of the left vocal cord and arytænoid cartilage. Rhinoscopically a number of small fistulous openings, from which pus was oozing, were seen at the side of the "Choane." These were probably the points of exit for the splinters of bone previously discharged (Fauvel, *Revue milit. de méd. et de chir.,* Ti. 1882).—Starcke, in *Centralb. f. Chirurg.*

A Hundred and Thirty-one Cases of Mammary Cancer treated by Operation in Volkmann's Klinik during the

YEARS 1874-78.—The commencement of the 6th decennium appeared to be the most frequent starting-point of the disease; before and after that period the tendency diminished. 112 patients were married (84 per cent.), and of these 8 were nulliparæ. Of 98 women the number of whose pregnancies is given, 21 had suffered once and 4 several times from mammary abscess, whilst in 4 cases the mastitis had been bilateral and in 1 non-puerperal. Sprengel concludes that puerperal mastitis most often disposes to mammary cancer. In 19 cases repeated injuries, in 25 single injuries, were assigned as the cause, but these statements Sprengel accepts with reserve. There was clear evidence of heredity in 109, but in 13 cases such evidence was distinctly wanting. The tumour affected the right breast 56 times, the left 75. Carcinomata developing in immediate connexion with pregnancy and lactation ran a peculiarly malignant course. The skin was always involved earlier than the muscular tissues. The rule that the entire gland should always be amputated was only twice departed from. In these cases the nodules were very small. There were 10 deaths after operation, viz.,—1 collapse, 2 pulmonary embolism, 1 gastric hæmorrhage, 1 anthracial gangrene, 1 erysipelas, 4 septic processes. Recurrence took place most frequently within six months of the operation. "Definitive" cures are noted in 15 cases. In 13 the patients remained healthy for more than three years after excision; one died, after more than three years, of a tumour having no connexion with the original growth; and, in one, cancer recurred in the other breast. Of 29 cases of carcinoma mammæ without infiltration of the axillary glands, it is to be noted that 6 were definitively cured, whilst of 102 cases where such infiltration of glands did exist, only 9 had a similar termination (O. Sprengel, *Archiv f. Klin. Chir.*, 1882, Bd. xxvii.) —Maas, in *Centralb. f. Chirurg.*

SUCCESSFUL TRACHEOTOMY FOR DIPHTHERITIC CROUP IN A CHILD ELEVEN MONTHS OLD.—Dr George F. Shrady of New York gives the details of this case, which was under his care during the month of February of last year. Chloroform was given on account of the little patient's struggles. The tube was removed on the thirteenth day after the operation, and the wound was healed three days later. The point of greatest interest in the case is the result in one so young. So far as Dr Shrady is aware, it is the first case of its kind of recovery under one year that has been reported in America. An extensive search of the literature of the subject has made him acquainted with only seven cases of a similar nature, four of which have been published in British periodicals, and three in Continental. Of the four British cases one is reported in the *Edin. Med. Journal* for 1861, p. 956, by Mr Joseph Bell. There have also been reported a few other instances of recovery in young children after tracheotomy, but for some other condition than croup. Of these one of the most interesting has been recorded by Steinmeyer, the operation having been performed successfully on a child aged nine weeks for threatened suffocation from a retro-pharyngeal abscess.—*N. Y. Medical Record*, Nov. 4, 1882.

THE RADICAL CURE OF HERNIA BY HEATON'S OPERATION.—Dr William S. Bull reports the results of twenty-one cases on whom he has operated since 1879. He explains that he has had forty patients in all, but nineteen of these had not been seen since leaving hospital, and extended search failed to find them. The operation has proved in his hands, as in those of Heaton, a very safe one, there being no deaths and little constitutional disturbance. In only one case was there enough local inflammation to warrant the application of a cooling lotion for a few days. No swelling has been perceptible externally, but a plug of induration has generally been felt over the site of the canal, which has disappeared within two weeks. A very slight epididymitis occurred in six cases, but subsided in two or three days. One patient had retention of urine for five days, and in another the rupture (omental) came down the day after the operation, and was irreducible for a month. Of the twenty-one cases, five were cured, seven improved, four temporarily improved, and five were failures. Of the seven improved, two might be considered as cured were it not that the patients continued to wear a support. Three others Dr Bull hoped to cure by a repetition of the operation. The patients were all males but one. The ages varied from four to seventy-three, the majority being from twenty to forty. From his experience Dr Bull feels justified in recommending the operation, and is sure that in another series of twenty cases he could greatly improve on this record. In the discussion which followed the reading of the paper in the N. Y. Surgical Society, several other surgeons gave their experience. Dr Weir reported the results of forty-one cases, which he divided into two series of twenty-eight and thirteen. Of the first series eight were successful, and the others improved. He did not place much reliance upon the teachings of this series, as it required some time to properly carry out the technique of the operation. He had not at first found it an easy matter to throw the fluid deep into the canal. The second series of cases were operated on with an improved instrument, and he felt that they were more reliable. Of the thirteen six were cured. In two the condition was improved, so that a truss could be worn, which was impossible before the operation. The rest were failures. Dr James L. Little reported four cases with two successes. Dr Briddon reported three cases, all failures. Dr L. S. Pilcher mentioned that one of his acquaintances had been operated on for inguinal hernia by Heaton between fifteen and twenty years ago. The result was complete relief, which had been permanent.—*N. Y. Medical Record*, Nov. 11, 1882.

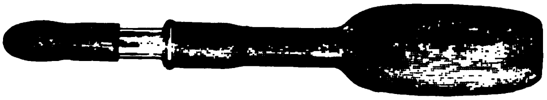
Part Fifth.

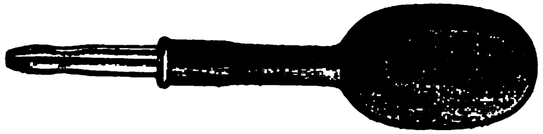
MEDICAL NEWS.

ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.—The following gentlemen passed their final examination for the qualification in Medicine in December 1882, and were admitted L.R.C.P. Edin.:—George Chas. Gaudin, Guy's Hospital, London; Edward Colby Sharpin, Bedford; John Mason Willey, Wold, Northampton; Alfred Barber, Basingstoke; William Mill, Tavistock, Devon; Frederick Thomas Frampton, London.

HOW THEY MAKE "COD-OIL" AT SWAMPSCOTT.—Swampscott is a little town upon the coast of Massachusetts, not far from Lynn, situated near the head of a bay between Nahant and Salem. Off this ancient haunt of fishermen, at a distance of about nine miles, is a place called the "rocks," where, in the winter, the codfish come in shoals to spawn, and the striped bass sport themselves in the summer. During the winter months, be the weather what it may, unless the wind be rising for a gale, a little after midnight men may be seen going about the village, stopping here and there at houses, rousing the fishermen, who by-and-by gather in groups about the shore, each with his "dory," that well-known model of Yankee ingenuity which at the great Berlin fishery exhibition excited so much attention. The dories and their owners are soon aboard the various schooners in waiting, and by five A.M. the fleet is at the "rocks;" so, when the daylight is sufficient, the dories anchor about their respective larger crafts, each boat with its single occupant, who is soon hard at work robbing the sea of its life. About three P.M. the signal is given from the schooners to come aboard; the dories hasten to their floating castles, with pitchforks the various "catches" are soon thrown aboard, and sail is made for home. During the passage the fish are gutted, the entrails cast into the sea, and the livers, some of them large enough to fill a quart mug, are put into baskets. When the shore is close at hand, the fish are put again into the dories; but the roughness of the sea usually is such that these boats, when loaded, cannot land, and into the icy sea-water the horses are driven until the carts reach such a place that the codfish can be put in them, when off they go, to plod the night through for the early Boston market. The livers are immediately sorted over and the gall-bladders carefully removed. The great, luscious, flabby masses are thrown into a large oak tub; with this are connected steam pipes. When the receptacle is full and closed, low-pressure steam is turned on, and for about two hours and a half cooking goes on. Then the plugs are taken out at the bottom, and the hot oil streams into buckets. It is now placed in butts in the "cooling-room," and allowed to stay there until it freezes solid. So it is kept till opportunity offers, when it is put in canvas bags holding about four gallons each. These bags are then placed regularly upon a heavy oak table provided with outer grooves for conducting liquid, until twelve gallons are in a row. On this is laid a slab, then canvas bags, and so layer after layer, until about eighty gallons are piled up. A ton of pig-iron is then placed upon the top slab of oak, and the oil begins to flow out. In about twelve hours dripping ceases, and the apparatus is taken apart. Inside of the bags is found a yellowish, butter-like mass as hard as tallow, which is nearly pure stearin, with liver *débris* and fibres. This goes to the soap-makers, whilst the oil finds its way to the Massachusetts General Hospital and other places where the superiority of the finest American oil over the Norwegian is recognised.

We have received from Mr Balmanno Squire one of the urethral syringes invented by him. It seems to be not only ingenious, but really useful. An illustration of the syringe is subjoined, printed from a plate supplied by the inventor. The principal advantages of this syringe seem to be that it can be worked by one hand easily, without being liable to get out of order, without injuring the urethra, and can be carried in the pocket, charged with the fluid to be injected.





In the *Dublin Journal of Medical Science* there is a very interesting paper by Mr Butcher, in which he gives an account of eight remarkable cases. It is impossible to mention even all of these: we shall only shortly refer to one or two. The first is a case of "enormous inguinal aneurism cured by ligature of the external iliac artery high up; death of patient eight years after the operation; short history of the case, and the post-mortem appearances, and the condition of the vascular system in both limbs, illustrated by a beautiful plate taken most accurately from the preparation in my museum." The most interesting point in this case is the discovery, eight years after the operation, that the artery, from the ligatured point to the popliteal, had become obliterated and reduced to a cord. It is interesting, also, to note that the iliac artery, though cut through by a silk ligature and a portion removed in its loop, appeared continuous. Case IV. is "suicidal wound of the throat, implicating the trunk of the common carotid low down, successfully ligatured above and below the wound; perfect recovery." The most interesting thing about this case is, that Mr Butcher saw the man within a few minutes after the infliction of the wound (having been stopped in the street, and having had his instruments with him), and, though the man appeared to be dead, managed to resuscitate him after first ligaturing the carotid above and below the wounded point. This case is very instructive in showing how a surgeon, by acting promptly, may save life. Case VI. is described as "extensive disease of the lower end of the thigh bone; large projecting piece threatening the popliteal vessels; the entire cut out by a most formidable operation; perfect recovery, with entire use of the limb." This case is of great interest to the practical surgeon, especially in the satisfactory result. We cannot see, however, why Mr Butcher should style the operation "most formidable," as the removal of a large sequestrum from the lower end of the femur by an external incision is not an unusual operation.

DEAF-MUTEISM.

WOULD my brother practitioners throughout Scotland lend me their aid in collecting information regarding deaf-mutes and their histories? I have had the following Inquiry Sheet (Hartmann's modification of the Cologne Inquiry Sheet) printed in a form ready for the answers and examination of deaf-mutes, and would be glad to forward them on application to any medical man kindly willing to assist me in the matter. In publishing the cases, the initials of names, along with the county, parish, or populous town, will be given.
J. J. KIRK DUNCANSON.

22 DRUMSHEUGH GARDENS, EDINBURGH.

INQUIRY SHEET

Concerning the Deaf-mute: Name,................Religion,............. Occupation,................Born................18.......in the parish of ....in the county of............living............

1. Has the deafness which has caused the deaf-muteism—(*a*) existed since birth?............(*b*) been acquired after birth?

2. What is or was the position and occupation of the parents?

3. What diseases did the parents suffer from or die of?

4. How many children have or had the parents?

5. Which child, counting from the first, is or was the deaf-mute one?

6. Are or were the other children—(*a*) healthy?............(*b*) born deaf-mute?............(*c*) had they become deaf-mute?........... (*d*) what other bodily or mental diseases did they suffer from?

7. Are or were there in the family cases—(*a*) of congenital deaf-muteism ?............(*b*) of acquired deaf-muteism ?............(*c*) of deafness (inclusive of hardness of hearing of a high degree) ? ....in the direct line (parents, grandparents)............or in the collateral lines (brothers and sisters of the parents and grandparents and their offspring)............(1) on the mother's side ? ....(2) on the father's side ?

8. Are or were the parents of the deaf-mute related to each other—(*a*) cousins ?..............(*b*) uncle and niece ?............... (*c*) nephew and aunt ?............(*d*) otherwise related ?

Only to be answered in cases of acquired deafness.

9. At what age did the person become deaf ?

10. What disease caused the deafness—(*a*) cerebral inflammation (convulsions) ?.........(*b*) epidemic cerebro-spinal meningitis ?..........(*c*) scarlet fever ?......... (*d*) measles ?.........(*e*) small-pox ?..........(*f*) typhus ? ....(*g*) ear disease ?...........(*h*) cranial injuries ? ....(*i*) other diseases ?

11. Does the deaf-mute suffer from disorders of vision—(*a*) from blindness ?.........(*b*) from retinitis pigmentosa ?[1]

12. Are or were there in the family cases of retinitis pigmentosa ?

13. Are or were there in the family cases of—(*a*) congenital idiocy ?.........(*b*) acquired idiocy ?

14. Is or was the deaf-mute—(*a*) idiotic ?............(*b*) weak-minded ?...............(*c*) epileptic ?............(*d*) paralyzed ?............ (*e*) scrofulous ?.........(*f*) rickety ?.........(*g*) syphilitic ?

15. Is the condition of the external ear or of the membrana tympani normal.

16. Has the deaf-mute been instructed by means of the special deaf-mute tuition—(*a*) in a deaf and dumb school ?.............. (*b*) privately ?.........(*c*) no tuition ?

17. Does the deaf-mute communicate with others—(*a*) by articulate speech ?..........(*b*) chiefly by articulate speech ?.............. (*c*) chiefly by the sign-language ?.........(*d*) by sign-language only ?

18. Is or was the deaf-mute married—(*a*) to an individual in possession of all the senses ?.........(*b*) to a deaf-mute ?

19. How many children has this marriage produced ?

20. Are the children—(*a*) healthy ?.........(*b*) deaf-mute ?......... (*c*) otherwise afflicted ?

21. Special remarks.

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[1] These symptoms are—1. Attacks of blindness in broad daylight, combined with (and that is the most striking symptom), 2. Limitation of vision, especially when it is getting dusk, the individual not being able to find his way in the evening; running against objects situated obliquely to him, while the power of perception in a direct line still remains more or less unimpaired. 3. A very long duration of the affection, which generally can be traced back to, from the sixth to the tenth year of age; its steady and very slow progress. 4. Complete integrity of the portions of the eye visible without the ophthalmoscope. 5. Generally very slight or no subjective annoyances (pain), but simple limitation of the power of perception.

We have received the *14th Annual Report of the Inebriates' Home, Fort Hamilton, N.Y.*, giving the statistics of 600 cases which were under the care of Dr Lewis D. Mason. To one or two facts we would draw attention. In regard to heredity we find that in about half of the cases a history of insanity or inebriety among near relatives was made out. Considerably more than a third of the entire cases admitted had drunken parents or grandparents. Head injuries are quoted as largely in excess of other exciting causes. These facts seem to bear out forcibly what our profession has long been trying to teach the public, and more especially our legal brethren, viz., that inebriety is very frequently a disease of the nervous system, and requires treatment of a special kind as much as insanity.

Erratum in our November Number.—By a mistake of the author of our Otological Periscope, a review of Baginski's pamphlet on the *Function of the Semicircular Canals*, which appeared in the *Philadelphia Medical News* for February 4, 1882, was put in as an original review, instead of being quoted and acknowledged in the Periscope, as had been intended.—*Ed. E. M. J.*

CORRESPONDENCE.

To the Editor of the Edinburgh Medical Journal.

Copenhagen, *December* 1882.

Sir,—According to the desire expressed by the International Medical Congress at its 7th session in London, 1881, and in consequence of later discussions on this subject, it has been resolved that the 8th session of the Congress shall be held in Copenhagen.

Especially in order to prevent collisions with other Medical Congresses, we beg to request that you will already now, in your esteemed journal, draw the attention to the fact that the 8th session of the International Medical Congress will take place in Copenhagen during the days from the 10th to the 16th of August 1884.—We are, Sir, your faithful servants,

C. Lange, *Secretary-General.*
P. L. Panum, *President of the Organizing Committee of the Congress.*

MEDICAL CONFERENCE ON VACCINATION.

We have received the following communication:—

East India Association, 26 Charing Cross, S.W.,
January 1883.

Dear Sir,—Having paid considerable attention to the subject of vaccination, I intend organizing a conference, to meet in London this year, to discuss the merits and demerits of the practice, and the question of its compulsory enforcement. It is hoped that, as the inquiry will be unfettered by officialism, an independent and reliable verdict upon this much vexed question will be thereby returned to the public. With a view to assist the work of the forthcoming Conference, I am forwarding the accompanying series of questions to leading medical men and those well informed upon the subject, and I beg to request you will do me the favour to reply to them before the 1st of February.—I am, Sir, yours faithfully,

M. D. MAKUNA, M.R.C.S., L.R.C.P.
(Late Medical Superintendent of Fulham Small-Pox Hospital.)

Questions.—1. What are your views regarding compulsory vaccination in England, Scotland, or Ireland? 2. What are your views regarding the protection afforded by vaccination against small-pox? 3. What diseases have you, in your experience, known to be conveyed, or occasioned, or intensified by vaccination? (Please give cases.) 4. What opinion do you hold as to the quantity and quality of vaccination, as determined by the cicatrices? 5. What opinion do you hold as to the relative values of humanized and animal lymph, both as regards efficacy and safety? 6. What opinion do you hold regarding the relations subsisting between variola and vaccinia, and the theory of vaccination? 7. How far do you consider insanitary conditions responsible for small-pox epidemics, and how far can small-pox be controlled by improved sanitation?

A conference of the kind proposed can hardly fail to be useful. We wish it all success, and we trust that, in the first instance, the circular of Dr Makuna will meet with a ready response. The subjects on which the questions turn are all more or less important. Some of them are kept pretty constantly before the public by the opponents of vaccination, and it is desirable that their perverse and persistent misrepresentations of facts should be met by such a collective expression of the mind of the profession as is likely to result from this movement. We were unanimous in 1856, when the main questions connected with public vaccination were submitted to us by circular from the General Board of Health,[1] and we do not doubt that there will be substantially the same unanimity still. The verdict now asked for will be more comprehensive than that obtained twenty-seven years ago, for it will bear directly on the question of *compulsory vaccination,* and also on animal vaccination, which last was not then before the public, but in regard to which the medical profession—many, at least, of those best qualified to judge—have had time to form a definite opinion.

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[1] Papers relating to the History and Practice of Vaccination. Presented to both Houses of Parliament, 1857.

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Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Basilysis for Dystocia from Hypertrophic Elongation of the Cervix Uteri.* By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh, President of the Edinburgh Obstetrical Society.

(*Communicated to the Edinburgh Obstetrical Society, 10th January* 1883.)

THE problem how best to comminute the fœtal head is not yet solved. It is not to be reckoned among the problems of prime importance in obstetrics that wait their solution. Improved hygienic conditions have been lessening the kinds of disease that lead to the pelvic deformities which formerly oftener necessitated the sacrifice of the child; whilst the induction of premature labour, improvements in the method of turning, the application of axis-traction rods to the forceps, and modifications in the details of the Cæsarean operation, have all tended to limit the number of labours in which the head must be broken down to allow of its extraction. Still there remain, and ever will remain, a group of cases where the best thing the accoucheur can do is to reduce as much as possible the bulk of the fœtal head; and I believe one renders a good service to obstetrics if one offers any help towards the solution of the problem as to how the process of head-reduction can be perfected.

I thought to render such a service in laying before the Society, three years ago, some suggestions for breaking up the base of the skull after perforation of the vault by a process which I described as Basilysis, and with an instrument which I designated the Basilyst. The process was recommended on theoretical grounds, and the instrument from experiments made on the dead subject and the phantom. Last year I recorded a case in which I had carried out the operation with satisfactory results.

In the Maternity lately a patient was delivered in whom the basilyst again gave saving help, and I now lay the history before you as it has been drawn up by Dr Keppie Paterson, one of the house surgeons. I give the history all the more that the condition which necessitated operative interference is not of every-day occurrence.

CASE.

"A. R., ii.-para, age 28, last residing at South Leith Poorhouse, was admitted in labour on 21st December 1882. Her last menstruation took place at the beginning of March; quickening was first felt in end of June, and, according to her own account, she probably conceived on the 13th or 14th of March.

Condition during Pregnancy.—Morning sickness was absent. She has had leucorrhœa for a number of years, but did not notice any change in the amount of the discharge, nor did she suffer any pain before April, when pain in the back began to trouble her, and then for the first time she noticed something come down on making water and while at stool; it receded, however, on lying down. The discharge shortly after became yellow and with an offensive smell. In June difficulty of walking was experienced, and the pain in the back and hips had increased so much that towards the end of the month she found it necessary to take to bed. She was then admitted to South Leith Poorhouse, and remained there until labour started. During all this time, from the middle of July to December 20th, she was wholly confined to bed, with the exception of about half an hour in the morning. In bed there was no pain present, but it became very severe on rising, the pain being situated in the lower part of the abdomen, back, and hips. A strong sense of weariness was always present, and she also describes a feeling of heaviness, and seems to have slept a good deal. The tumour appeared externally in July, and gradually grew larger. In August a red discharge came on, and returned every now and then, lasting from one to two days. During this month an attack of shivering developed itself, and lasted more or less for about six days, the rigors evidently being severe, as she describes them as shaking the bed; each rigor was followed by a feverish attack. After August the rigors and fever came on about every fortnight, but they were never so severe as at the first. She experienced great difficulty in micturition for a few months before labour. She could not walk over a few yards, from the pain and weight, and while doing so had to support the tumour with her hand.

Previous Obstetric History.—Patient was married in October 1877, and had a miscarriage in the beginning of January. On 21st September 1879 she gave birth to a female child in the Maternity Hospital. Her labour was natural. The child, which weighed 3 lbs. 11 oz., died three days after, being premature and very feeble from the first. During her puerperium some mental aberration showed itself in muttering to herself and taking no notice of anything; she had to be watched, and was screened off from the rest of the patients. Her convalescence was slow, and on dismissal on the nineteenth day she was rather weak. The uterus was retroverted.

Labour.—Patient was admitted on 21st December at half-past eight in the morning. Her appearance was pale, thin, and weak, and on examination a double lateral curvature of the spine was noticed, the upper being a gentle curve to the left of the greater number of the dorsal vertebræ, the lower curve being more marked, and including the lower one or two dorsal and upper lumbar vertebræ. The external pelvic measurements were, inter-spinous 8¾ inches, inter-cristal 10⅝ inches, and external conjugate 7⅛ inches. The uterus was directed to the right, its size small, and of ovoid form. The bladder was lifted up and distended above the pubes. No fœtal heart could be heard, nor had the patient felt movement for four days previous to her admission. The labour had started at 11 o'clock the night previous. She described a continual bearing-down sensation with intermitting uterine pains; but she suffered more from the bearing down than from the pains; there was also a feeling of heavy weight, and "just as if the whole was coming away from her." She was seen by Professor Simpson at 10.30 A.M.

On inspection a tumour was noticed projecting two inches from the vulva, with a transverse division in the centre. Its consistence was very hard, and it was of a red colour, except in some places where it was ulcerated and covered by a gray pellicle, showing that the erosions had existed for some time, and from these there was a discharge of sanguineous purulent matter. The vulva was distended by the tumour, the parts around being white and indurated. The os just admitted two fingers, and at a full finger's length from the os the vertex of the child was felt presenting with the membranes unruptured; the occiput was directed to the right and a little posterior to the right extremity of the transverse diameter. The bones of the head felt lax.

The cervix was pushed back into the vagina, and the anterior lip supported during the pains. Its tissue became somewhat softer, and the os dilated to about two inches in diameter, and the lips would be about ½ inch thick. During this time the upper portion of the cervix and lower part of the uterus were becoming thinned out and in danger of rupture.

On Professor Simpson again returning, the membranes were ruptured about 12.30, and meconium-stained liquor escaped, after which the parts were thoroughly douched with carbolized water. It being very clear that the child was dead, he determined to basilyze it, so as to facilitate the delivery. The patient was anæsthetized and placed in the lithotomy position, in presence of Dr Guido Jochner, jun., of Munich, Dr Anderson of University College, London, and several of the Maternity students. The house-surgeon kept the uterus fixed by pressure on its fundus with one hand, while the other fixed the head by pressure above the pubes. The vault having been perforated on the side next the anterior wall of the cervix, the point of the basilyst was guided to the anterior part of the base, in front of the sella turcica, and screwed in to the shoulder. When the blades had been separated it was felt that the structures were broken up. To effect more complete comminution the instrument was again applied just behind the sella turcica, and on its withdrawal the base of the skull felt relaxed. No blood escaped during this proceeding, showing that the child was dead, and the maternal structures were not injured. Some brain matter escaped during the operation, and the rest was evacuated by douching. Traction on the head was made by the fingers, support and counter-pressure being applied to the lips of the cervix during its extraction. The head was delivered easily, but difficulty was experienced with the shoulders, the circle of the os fissuring in different directions, especially at the left side, where the parts were somewhat thin. The distention by the shoulders also wounded the left nympha and adjacent portion of the vestibule anteriorly and the right posteriorly. The cervix was well douched with carbolized water, and digital pressure applied to the wound of the left nympha in order to stop the bleeding. The placenta was expelled in about twenty minutes, and shortly after some (post-partum) hæmorrhage occurred. Ergotin was injected freely into the buttocks. The patient's pulse was now very feeble, and her condition critical, from the loss of blood with her previous weak state. Ether was administered intra-muscularly, and stimulants and digitalis by the mouth. Bandages were applied firmly to the legs from below upwards, and combined external and vaginal pressure to the uterus maintained for about two hours.

The patient gradually rallied, and the passages having been again carefully douched with carbolized water, the lacerated surfaces were dusted with iodoform before the patient was put to rest. The child was born at 1.20 P.M., 13 h. 20 min. after commencement of labour; third stage, 20 min.

Examination of Child.—Child, female, was 18 inches long, and without the brain weighed 4 lb. 7 oz. Its development was full time. It had been dead for two or three days, the cuticle being peeled off in the places exposed to manipulation. The basilyst had broken up the left parietal and the upper edge of the left temporal bones, and, internally, the ethmoid and the anterior portion of the base of the skull.

Placenta.—Pale, somewhat oval, a projecting portion being thin and flat. The insertion of the cord was marginal. The two vessels to the thin portion left the cord at its termination, passed on to the membranes, and then entered the detached lobule at its margin. The umbilical vesicle was situated on the fœtal surface of the placenta, beneath the amnion, at the centre of the thin lobule. It was of yellow colour, and about ¼ inch in diameter.

Puerperium.—During the first night patient very restless, and was talking during night. For the first week her speech was stuttering, only being able to speak a few syllables at a time; this was always worse in the morning, and existed to a less extent during the day.

The average temperatures for first few days:—First 12 hours, 98°·7; second day, 100°·7; third day, 101°; fourth day, 100°·3; fifth day, 99°·9; sixth day, 99°·5; seventh day, 99°·5; eighth day, 99°·3; ninth day, 99°·4; tenth day, 99°·6; eleventh day, 99°·5; twelfth day, 99°; thirteenth day, 98°·9; and gradually down to normal. Patient is now much stronger and in a fairly good condition. Hæmic murmurs can be heard at the base of the heart, and venous hum in the neck. Lochia for first few days was copious, then pale, and now there is very little.

Examination on Dismissal, Jan. 15.—Vulva rigid, and tender towards posterior part; cervix broadly conical, fissured transversely; anterior lip ⅝ inch long, posterior, over an inch. Uterus large, to the left, and retroverted."

REMARKS.

This case, as I have hinted, is interesting in more than one respect. The complication of labour with Hypertrophic Elongation of the Cervix Uteri is rare. The patient, it seems, had sought advice at my ward in the Royal Infirmary when she was about two months pregnant, but failed to return on the day appointed for her examination. In the only other case which I have had an opportunity of watching to the close, as the uterus rose up into the abdominal cavity the elongation of the cervix became less pronounced, and the labour, having come on at the seventh month, was not attended with any difficulty. It was specially remarked in the present instance that although the os externum projected from the vulva, the bladder and other loose retropubic structures were lifted up, as usual, above the pubes during the labour.

Many of the cases recorded as instances of labours complicated with prolapsus uteri have doubtless been instances of dystocia from hypertrophic elongation of the cervix. In the series of illustrations collected by Hüter[1] several of the patients, such as those of Wagner, Lipman, and Hüter himself, had the cervix morbidly elongated and protruding through the vulva. We get an impression of the danger and difficulty associated with this complication of labour when we find Hüter stating, that of fifty-six women in full time labour with prolapsus uteri six died during or after the labour, giving a maternal mortality of nearly one in nine. As for the children, only nineteen were born alive, and fourteen dead; and he adds, that of other twenty-four children the fate of which is not recorded, the probability is that the greater proportion of them were still-born.

A great variety of procedures have been employed in effecting the delivery in such cases. Sometimes the canal has been dilated with the fingers or dilating bags. Sometimes a series of incisions have been made in the circle of the os, extending an inch more or less up the cervix. Sometimes the child has been extracted with the forceps. Sometimes turning has been had recourse to. Occasionally, as in our patient, the mother has got the best chance when the head of the child has been broken down.

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[1] "Der Vorfall der Gebärmutter bei Schwangeren und Gebärenden," in *Monatsschrift für Geburtskunde*, xvi. 186, 259, 1860.

The following history of a case by Benicke[1] of a primipara with elongated cervix is interesting as illustrating the difficulty attending the management of this kind of dystocia. The patient, æt. 28, was last unwell in August 1876, and fell in labour on 7th May 1877. "As the labour did not progress, notwithstanding some shallow incisions made in the os by a physician who had been called in, help was brought from the Lying-in Hospital, and I saw the patient for the first time at midday. Out of the vulva projected a tough bluish-red protuberance of about 15 centimetres in circumference, on its anterior part the os externum permeable for the finger, and below, on the posterior part, a granulating ulcer. Introducing the finger into the vagina, one could feel that the anterior vaginal fornix as well as the posterior were completely intact, also that one dealt with the much elongated cervix, now abnormally swollen with the influence of pregnancy and labour. If one introduced the finger into the cervix, it came upon the head, at a distance of about 6 centimetres, arrested in the upper part of the cervix. I ordered her to be conveyed to the Lying-in Hospital. Here, in the first place, a small Barnes bag was introduced, which was replaced in a few hours by another of larger size. In spite of this the dilatation of the cervix did not progress favourably. At 6 o'clock in the evening, therefore, an incision was made with a knife through the os externum and slightly the cervix. Meanwhile frequent injections of carbolic acid were ordered on account of bad-smelling discharges making their appearance. This incision was also of no use; therefore, at 11.30 P.M., an incision somewhere about 5 cm. long was made with the scissors on each side, the head seized with the forceps, and now completely drawn out of the cervix, the lips meanwhile being pushed up over it. The incision tore up a little further. The child was a well-developed living girl, and weighed 3156 grammes. After the birth the interior was washed out with carbolic lotion and the incised surfaces cauterized with the strong acid. Notwithstanding this in the childbed, the temperature rose high; in about eight days symptoms of mania made their appearance, for which the woman was removed to the hospital. She has been discharged from thence cured."

In the same paper Benicke describes several cases where the pregnancy was interrupted at various dates. The case which most resembles the one I have related to-night was in a multipara, who gave birth to a full-time dead fœtus after a tedious labour, which was ended by means of powerful expression from above while the margin of the os externum was pushed back over the head.

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[1] "Ueber Geburtsstörungen durch die weichen Geburtswege," in *Zeitschrift für Geburtshülfe und Gynækologie*, ii. 240, 1878.

In a paper on "Amputation of the Cervix Uteri," read by Dr A. K. Gardner before the New York Academy of Medicine,[1] a very graphic account is given by his friend Dr S. D. Shelton of the difficulty he experienced in effecting the delivery of a patient in whom labour was delayed from hypertrophy of the cervix.

"Her last confinement," he says, "commenced at 11 A.M. Saturday, 27th July 1861. I was not sent for until late in the afternoon, when she had been some six hours in the pains of labour. The pains had been regular, though short and little propulsive. I found the cervix uteri protruding from the vulva with the child's head somewhat engaged within it—that is, at its upper extremity. I do not mean that the head itself had as yet emerged from the vagina. I watched patiently and anxiously the slow progress of the case; but finding, after many hours, that the pains were inefficient and having little propulsive force, I administered cautiously and timidly (at first) ergot in the form of fluid extract. This was attended with a slight degree of propulsion, and the head advanced to a certain extent, but there it remained hour after hour—and how tedious and wearisome to more than the sufferer those hours!—pain after pain wearing out the strength without avail. I applied the forceps; carefully and gently I used them—employing, at first, a retractor like those used in amputations to antagonize my efforts in traction. But the retractor proved useless, and my efforts with the forceps of very doubtful utility. Still hoping I had made some progress, which the pains would urge on still further to the end, I withdrew the instruments, and left the case again for a while to nature—being myself somewhat fatigued with the force employed, and fearing I might injure my patient by drawing down the whole uterus, having no sufficient means at hand, at that time, to antagonize my efforts at traction.

"Again I administered ergot, giving her at the same time occasionally a little gin toddy to sustain her strength. During this tedious interval I revolved in my mind, over and over, the propriety of liberating the head from its incarceration by making a long and free incision through the whole extent of the cervix—the whole obstacle to delivery consisting in the fact that the propulsive efforts of the uterus forced down, not the head alone, but the head enclosed in the cervix as in a cap. This I should at length have done, but I determined first to make one more effort with the forceps. I applied the instruments, and having this time the assistance of the husband, I directed him to grasp the whole cervix in the palms of his hands, standing himself with his back towards the head of the patient, and, with a firm and steady, but gentle effort of strength, to draw upwards as I drew downwards with the forceps. In this way we both laboured until almost exhausted with our efforts, the head yielding slowly and doggedly but yet surely, inchlet by inchlet, until at length I had the happiness to see it emerge. The child, which I was sure would be either dead born or badly asphyxiated, breathed and cried freely immediately after birth, but, like all her other children, it soon began to pine and dwindle in spite of every effort to sustain it, and died just at the expiration of its first month of mortal existence. The mother had a very tedious and slow recovery."

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[1] *Bulletin of the New York Academy of Medicine*, April 1862.

Besides the interest attaching to the cause of the dystocia, I may remark that our case illustrates the dangerous influence that the loss of even a small quantity of blood may exert on a patient of enfeebled constitution. The blood-loss in the third stage subsequently was not great. It would only have been regarded as free, not excessive, in another patient. But in this instance it was followed by symptoms of great collapse that made her condition appear to us, for some minutes, to be very critical.

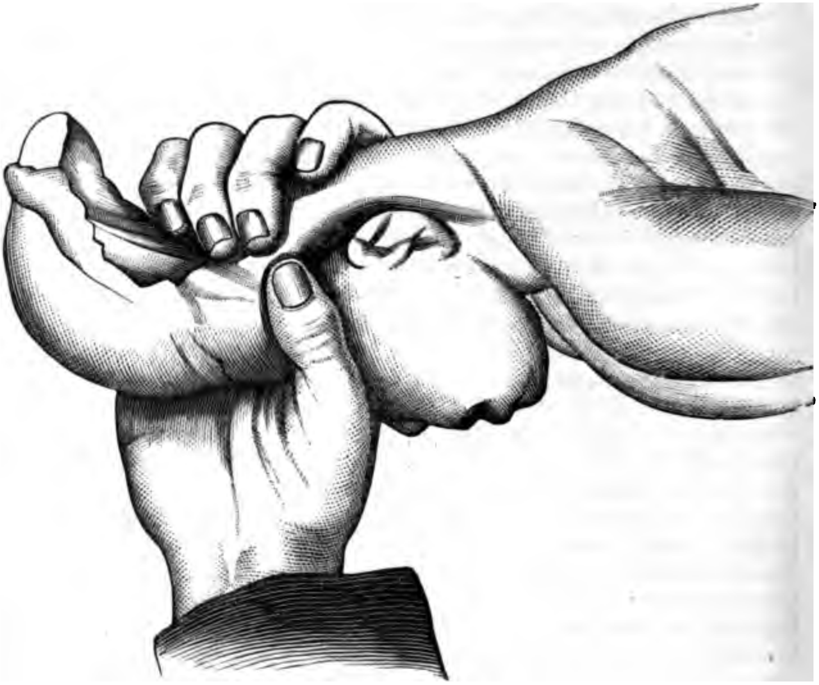

FIG. 1.—Basilyzed Head in the grasp of the hand.

The chief interest, however, lay in the opportunity it afforded of testing the working of the basilyst. It was clear that the patient could not be left to the unaided efforts of the parturient powers. To have applied the forceps would have been to endanger the diseased and friable tissues of the mother without any advantage to the dead child. My only hesitation was as to the desirability of using the new instrument in a patient so debilitated and so likely to succumb to the dangers of the process of labour, however it might be terminated.

The employment of the basilyst in this case convinced me that it is safer in its principle of action than any of the other methods of dissolving the head. The conditions were, of course, exceptionally easy. The left parietal bone, lying next the anterior wall of the pelvis, was easily reached, pierced with the screw point, and torn widely opened when the handles of the instrument were compressed. When the cavity of the skull had been washed out it was easy to direct the point inside the skull towards the left side of the mother so as to pierce the ethmoid bone and fracture it and the sphenoid. This might possibly have sufficed, but I thought it well to pierce the base of the skull yet again further back, and effect more complete dissolution of the structures. The result was, as stated in the report, that it was now easy to bring about the escape of the head without producing any laceration of the maternal structures. Considerable fissuring took place, both in the circle of the os uteri and of the external pudenda, as the bulkier shoulders were being dragged through, but the head was so reduced and relaxed that its transit was effected without compromising the integrity of the cervical tissues.

FIG. 2.

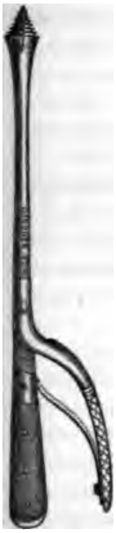

FIG. 3.

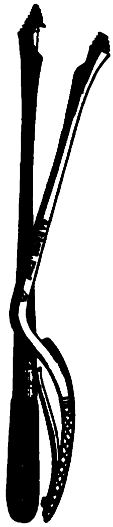

FIG. 2.—The Basilyst closed, as when it is being screwed into the bones.
FIG. 3.—The Basilyst opened, as when the bones are being torn up.

I have brought the basilyzed child with me, and you will get a clear impression of the degree to which the skull has been comminuted in the base. When I grasp it with the thumb passing round the forehead at the level of the orbital processes, and the fingers passing round the hindhead (see Fig. 1), you will see that the tip of the medius, which embraces the sub-inial part of the occiput, comes close to the tip of the thumb just above the ear. The head has been so much diminished that it traverses a canal with a diameter of only two inches.

I show you, further, the instrument which was employed on this occasion (see Figs. 2, 3). You will perceive that it is somewhat modified from the basilyst of three years ago. It is simplified in its construction, the two halves of it, in the new instrument, being of equal thickness. Again, the joint has been brought closer to the handles, with the effect that when the handles are squeezed together the points are more widely separated, so as to effect a more complete dilaceration of the perforated structures. Withal, the new basilyst has become lighter and cheaper. It does not cost more than the perforator in common use amongst us, and has the immense advantage that, whilst it as easily and effectively perforates the vault of the cranium, it can further break up the unyielding base, and thus in many cases render us independent of any further head-crushing implement or apparatus.

ARTICLE II.—*Germs and the Spray.* By JOHN DUNCAN, Surgeon to the Royal Infirmary, Edinburgh.

(*Read before the Medico-Chirurgical Society of Edinburgh, 7th February* 1883.)

IT is curious to speculate on the fate of Listerism had our knowledge been formerly as it is now. How would these methods have been received had we known that under antiseptic dressings organisms may flourish while the wound follows what has been called an aseptic course; that all suppurations of an acute character, and some of a chronic, are attended by microbia although unexposed to the air; that the injection of an aseptic fluid may induce septicæmia; that contamination of a wound through the atmosphere is comparatively unimportant, while the means taken to prevent it are inefficient? On this last point I have made a few investigations, which I desire to lay before you.

A few years ago I began an attempt to discover the percentage which remained aseptic of cases in which major operations were performed when the skin was previously sound. I have found it by no means an easy task. It is plainly impossible to trust such tests as the odour of the discharge or the discoloration of the protective oiled silk, because they may be absent while organisms are present, and may be produced by other causes than bacteria. Search with the microscope and cultivation of the discharges in aseptic fluids appear the most reliable methods, and have been diligently put in operation. Even they, however, are not absolutely satisfactory, because they are apt to give contradictory results. In my experiments flasks became turbid and showed organisms of various kinds after impregnation with discharges in which the microscope had not detected life, and bacteria may be visible in the discharges which are difficult to cultivate. Gradually improvements were made whereby errors in these respects were to a certain extent eliminated. The various methods of staining came to be at our disposal, and the use of different cultivating fluids was practised. The results did not even then accurately correspond, but at least it was possible, from first to last, to err on the side of caution, and accept as truly septic only those cases in which no doubt could possibly exist. I was astonished, during the research, to find that in more than half the cases, most of which I had hitherto regarded as aseptic, organisms could be at one time or other discovered. My first idea was, of course, that this arose from defective skill in the management of antiseptics. But in any case it was a matter of importance. If the error were manipulative, then the difficulty of manipulation was so great as to make the treatment unsuited for common use; if not, there was a leak in the Listerian hypothesis. Precautions in the treatment were redoubled, and, to check my own results, I obtained from my colleagues dressings from cases which they believed aseptic. The percentage was somewhat reduced, but yet I found that about forty per cent. was the proportion which I could not by any means diminish, and that, in short, almost every case which was not after the first day or two absolutely dry, showed organisms in the fluid exuded.

It was impossible to continue in the belief that the fault lay solely, or even mainly, in defect of manipulative skill. Did they come, then, from within the body or from without? Was it, or was it not, a result of imperfection in the methods of Listerism?

And first, do they come from within? There are various experiments and observations which bear upon this point. That organisms of various kinds easily find their way into the blood by other channels than by palpable wounds may be held as certain. We have in evidence the whole class of zymotic disease, and more especially those in which the presence of microzymes has been directly demonstrated. That from the blood they may pass into and develop dangerous energy in the tissues, the published cases of endocarditis and osteomyelitis sufficiently testify.

The curious experiments in bistournage are doubtless capable of several explanations; but if they may be held to indicate the rarity with which certain organisms are present in quantity in the blood, they indicate, also, their power for evil and the certainty with which, when present in the circulation, they attack tissues devitalized by injury.

Dr Burdon Sanderson has asserted that by injection into the peritoneum of aseptic fluid in sufficient quantity bacteria of virulent quality may be there engendered, an experiment which suggests that a certain proportion between the number present in the blood and the amount of local irritation is necessary to ensure their development.

Lastly, Dr Ogston's observations tend to confirm this view. He found in a long series of acute abscesses the invariable presence of chains or groups of micrococci. I have repeated his observations by his methods in most of the abscesses which have come under my care since his paper was published. In three of the acute abscesses, a bubo and two whitlows, I was unable to find organisms; in the others they were present. All contained micrococci, several contained rod-like bacteria, and one a number of long jointed rods. I have not found them so commonly in chronic abscesses. In a few, however, they were undoubtedly to be seen. Thus, in two strumous glandular abscesses of the neck and in one of the axilla

I found multitudes of micrococci. Chronic abscess is probably more frequent in the abdomen than elsewhere. Except those connected with caries of the spine, in which I have only once met with them, organisms, generally bacteria, as well as micrococci, are constantly to be found in abdominal abscesses. Two of those which I examined were nephritic abscesses, one being due to the presence of a calculus in the kidney, two were probably from chronic perityphlitis, the others of undetermined origin. It is, of course, possible that in some of these cases contamination may have spread from the neighbouring digestive or urinary tract, and that in others the organisms arrived by the lymph path, but this explanation cannot apply to many. It is impossible to avoid the conclusion that if the abscess be the effect of their presence, their entrance into the blood is comparatively common; if it be the cause, their great frequency in acute abscess would indicate either their constant presence in the circulating fluid, or that very slight disturbance of the general economy may afford the necessary conditions.

It appears certain, then, that we have here what I have called a leak in the antiseptic system. It is certain that organisms are frequently found in discharges apparently aseptic. It is proved that similar organisms easily enter the economy otherwise than by a wound. It is proved that organisms thus entering may produce local effects of varying degrees of severity, and are prone to attack injured textures. It is proved that they almost invariably attend acute inflammation. Is the conclusion not warranted that they sometimes present themselves by this means in surgical injuries, and that the severity of the resultant effects will be determined by the same causes as influence them under other circumstances? What these causes are we have yet in some measure to determine. Some of them, at least, we know; others we can only conjecture. We know that moisture and warmth favour the multiplication of these organisms, and that dryness and drainage are inimical to them. We know that the healthy textures may absorb a certain quantity of fluid, may destroy a certain number of microbia, but that beyond a certain point their germicide power does not extend. We believe that very various properties belong to different germs, whether from innate generic and specific attributes or as the results of cultivation natural or artificial. The results of moisture, of warmth, of drainage, of tissue health, of differing potencies, apply with equal force to germs which come from within and from without. My observations as to the presence of bacteria in wounds suggest to me that they are less harmful when they occur under antiseptic dressings than otherwise. May it be that their passage through the blood often deprives them of a portion of their virulence, or is it that the forms harmless to the blood are so also to the tissues more or less? I excised a knee-joint for anchylosis in complete flexion. The wound healed in less than three weeks, and after the first day or two was dressed only once a week, while the temperature never rose above 99°. In the scanty watery discharge abundant rod-like bacteria were invariably found, although absolutely in every other respect it followed an "aseptic course." And what adds to the striking character of the case is, that when, six weeks afterwards, in the same patient, for the same cause, I excised the other knee, the result was the same. That is merely one example out of many, and I have no hesitation in believing that had I allowed these wounds, while exuding fluid, to become contaminated from without, the result would have been modified to a greater or less extent.

Is, then, the difference between a compound and a simple fracture, an open and a closed bruise, to be accounted for solely by the presence of bacteria in the one and not in the other? A patient was admitted to the Infirmary who had ruptured, by sudden strain, some of the adductor fibres in his thigh. In the extravasated blood suppuration occurred, and when I opened the abscess I found many micrococci. Why does this suppuration not more often occur? The suggestions given above may partly explain; and it may be that although micrococci come to many, they find blood-clot pure and simple an unfavourable soil. Much has been said of the evils of tension such as existed in the case referred to. Tension does harm, undoubtedly, but not so much alone and in itself as by the nature of the exudation which causes it or to which it may give rise. The invariable tension of a bruise by blood-clot causes little harm. Tension by bloody serum, in developing bacteria from within or from without, may result in suppuration and septicæmia. But it would be impossible within reasonable limits to pursue these thoughts. They are sufficient to enforce the practical importance of the general condition of your patient prior to an operation, and the necessity for precautions against the development of germs coming from within.

But it must be admitted that contamination comes also from without, and to determine the question to what extent the organisms we find in wounds are due to one or other cause, the efficacy of external preventive measures must be ascertained. Can we, independently, I mean, of the necessary failures arising from human fallibility, by our present modes of antiseptic dressing, insure the exclusion of external septic influences? And, first, are the materials with which we cover our wounds able to exclude organisms? It is quite certain that with flasks containing sterilized but putrescible fluids many materials may be used for that purpose with success. It is sufficient to cover with cotton-wool, gauze, or almost any thick or impenetrable material, which has first itself been sterilized. I have found one of the most convenient coverings in experiments with such flasks to be a layer of ordinary pink macintosh, because it diminishes evaporation. It is not infallible. If you hold it up to the light, you will see that the waterproofing is often imperfect, that there are minute holes. Sometimes, presumably from this cause, it fails. Thus on one occasion I prepared six large beakers of Darby's fluid meat, and, having made certain experiments with them, set aside four which remained aseptic after three days' incubation. At the end of eleven weeks a delicate globe, like fine wool, began to form in the centre of the fluid in one of them, ten days later in a second, and gradually the whole contents became mouldy, while the other two remained unchanged for several weeks longer, and were at length used for other purposes. The macintosh may fail, then, but it does so very, very rarely; and I have frequently laid the flasks and beakers on their side for many hours, with the fluid in contact with the macintosh, without the contents becoming septic. But it is necessary that there be no putrescible channel leading from the outer air to the inner liquid. Such a channel speedily leads to putrescence of the liquid. Thus a flask containing Darby's fluid beef in aseptic solution was covered with macintosh, incubated, and kept a week. It was then laid on its side for a few minutes. The macintosh was made so tight that only a very little moisture escaped. Again incubated, it still kept clear. But after being kept on its side for twenty-four hours, a hardly perceptible outflow being thus kept up, it rapidly became cloudy on incubation.

Some interesting corollaries follow from these facts. Among them, for instance, this, that indiarubber and other materials of a like character, when thoroughly purified, may be used, with proper care, as in themselves a protection from sepsis; and that the macintosh or gutta-percha tissue are sufficiently safe as the outer layer of a dressing. It is evident, then, that with any of the ordinary forms of antiseptic dressing the only fear of contamination arises from the discharge or other putrescible fluid communicating with the outer world at the margin for too long a period. That this is an occasional source of sepsis, especially when dressings remain long unchanged, is certain and generally recognised. Mr Watson Cheyne's observations indicate, in his opinion, that this is apt to happen with micrococci when an ordinary gauze dressing has been kept on a very few days. And it must be remembered that the ordinary secretions of the skin, confined by impermeable material, may form the necessary channel as well as pus, a strong argument in favour of dry and absorbent dressings.

These observations of Mr Watson Cheyne's, which may be suggestively compared with Dr Ogston's on micrococci in abscess, receive also an explanation in a little experiment which I made with carbolized gauze. I covered the floor of the incubator with sixteen layers of antiseptic gauze, and exposed it for an hour to a temperature of 98°. I introduced a beaker of aseptic fluid, and left it exposed for twelve hours. It was then covered with macintosh, and remained clear till the fourth day, when it was again uncovered for twelve hours. It now became putrid, as did also beakers introduced on the fifth and sixth days. It is clear, therefore, that at least from the fourth day onwards the ordinary carbolized gauze maintains a wound aseptic, not because it contains an antiseptic, but because of the filtering material of which it is composed, and in which respect it is much excelled by dry cotton-wool and other dressings.

It is probable, then, that a certain proportion of the cases in which we found microbia may be accounted for by delays in dressing and by the nature of the material employed. There is here a tendency to failure, but one which can be guarded against by proper precautions. Any antiseptic dressing in common use may be rendered safe and effective.

But, secondly, are the precautions which we take when wounds are uncovered, as at the time of operation or the times of dressing, sufficient to protect them? Is the spray, for example, efficient? When engaged in testing wounds by cultivation experiments, I was in the habit of employing flasks for purposes of control. Two flasks, in every respect similar, were brought to the wound, opened and closed simultaneously under the spray, while one was inoculated with discharge and the other not. In two cases both flasks went wrong, and in one the flask which had not been inoculated became septic, while the other remained pure. I began to doubt the spray. *A priori*, one would be strongly inclined to believe that the rapid passage of septic material through an attenuated spray would not be sufficient to neutralize its malevolent properties; and that the passage might often be extremely rapid is very likely. I instituted, therefore, a series of experiments with aseptic solutions. It is hardly necessary to premise that every precaution was taken, in the way of washing with strong antiseptic solutions, not only hands and instruments, but also the coverings and external parts of the vessels before opening and closing them, so as to prevent contamination otherwise than through the air. The following was the method adopted:—A weak solution of Darby's fluid meat was rendered aseptic by boiling, and incubated. Two similar vessels containing it were opened simultaneously on the same table, one under the spray and the other without the spray, and were kept open for the same time. They were then reclosed and incubated at a temperature varying little from 98°.

It appeared probable that the fall into the fluid of carbolic solution from the spray might render it an unsuitable soil for germination. Many of the earlier experiments were therefore made with coverings, such as bell jars or sloping or horizontal plates of glass, suspended over the flasks or beakers. It was found, however, that this precaution was unnecessary, because uncovered vessels over which the spray had been playing for long periods were rendered muddy and putrescent with as great facility as others. I at first used beakers an inch and a quarter wide and two inches in depth. We found that at least twenty minutes' boiling was necessary to render them aseptic, and that in that time at least half the fluid had evaporated. We began with an exposure of one minute, and gradually increased the duration to forty-five minutes, with the following result:—Thirty-eight flasks were exposed under the spray, of which seven became putrescent; thirty-seven (one being spilled) were exposed without the spray, of which nine became putrescent. This is, of course, an unfavourable result for the spray. It might be, however, that some of the failures on both sides, comparatively few as they were, arose from manipulative defect. Thus the incubation period in some of them we found was not sufficiently long, because we subsequently met with one beaker in which cloudiness did not arise till it had been kept for four days in the incubator. Now we had been content with two days' incubation, and in some with only one. In several cases the same beakers had been used twice, and although the two sides were in all cases kept strictly parallel, it was unsafe to draw absolute deductions. It would only become a satisfactory experiment when we reached the period of exposure when putrefaction invariably ensued if the spray were not used. But with these small beakers this could hardly be reached without introducing other errors from the absence of personal supervision. Thus one of them was exposed without spray for periods of forty-five, fifty, and fifteen minutes on successive days without losing its perfect clearness. It was necessary to use larger tumblers. Beakers two inches in diameter and three inches in depth were exposed for periods of twenty, twenty-five, and thirty minutes. Of five under the spray one became septic; of four without the spray one also putrified.

Seven beakers 2¾ inches in diameter were exposed for the same periods with and without the spray. On both sides two remained clear and five became cloudy. We were approaching now a more accurate period of exposure. Beakers 3¼ inches in diameter were procured. But we were now confronted with a difficulty which had been gradually increasing with the size of the beaker. We found it almost impossible by prolonged boiling to render the contents of a vessel of this size aseptic without causing such evaporation as to reduce the quantity of fluid and increase its concentration too much for any useful purpose. By many experiments we came to the conclusion that this was due to the quantity of fluid, and not to the shape of the vessel or its proportion to the amount of contained liquid. I am unable to explain this curious fact, but it is indubitable that in proportion to the size of the beaker we required from twenty to ninety minutes to attain an aseptic state with fair certainty. We overcame the difficulty by Mr Tyndall's plan of interrupted boiling, and we found, after many attempts, that we could insure success with beakers of any size by boiling five times, for one minute each time, at intervals of twelve hours.

Beakers of 3¼ inches were now, therefore, tried. It was found hat up to twenty minutes' exposure occasionally they remained lear. Beyond that limit I have not succeeded in maintaining a ingle example unclouded, nine having been used on each side, our with twenty-five and five with thirty minutes' exposure.

I do not know that it will be necessary to multiply these experiments. I am unable to see where error can creep in. They seem o me definitely to prove that, so far as the destruction of floating germs in the air is concerned, the spray is perfectly ineffectual. It may be a convenient method of throwing a solution of carbolic acid of the strength of one to forty upon a wound. It may thus be useful in open wounds, but it can be of little value in such operations as those which deal with deep cavities. Nay, I should hink it likely to prove more injurious than beneficial in such cases. If you make the spray play across a beam of sunlight, you can see he floating dust in clouds rushing towards and being whirled along with it, so that one can hardly doubt that the margin of the spray is the most dangerous position in which a wound can be placed, and that a slight deflection from a current of air may result in the entrance of this floating matter to recesses where the solution deposited by the spray may never reach.

But these same experiments also show that the risk of contamination from the air has been greatly exaggerated. Putrescence nvariably follows a sufficient exposure of putrescible fluid to the air; but the germs which float about cannot be extremely numerous f a surface of an inch and a quarter may be exposed for nearly two hours without effect, and if to be reasonably certain of putrescence a surface of three inches and a quarter requires an exposure of twenty minutes.

The conclusion evidently is, that in the matter of wounds our prime object ought to be the attainment of the most absolute purity in all substances brought into actual contact with them, while the rare contamination which may come through the air is guarded against by washing with antiseptic solutions or by giving the germicide powers of the living textures a fair opportunity of coming into play. This conclusion is amply confirmed by the results of those who have not used the spray. The success of Keith and Lawson Tait in ovariotomy, and the statistics of Spence and Callender, not unrivalled by many others, in general surgery, are thus explained.

If, then, it be taken for granted that the spray is ineffective, other points for investigation are opened up. I hope to lay before you shortly the results of some researches in which I am at present engaged as to the germicide property of the vapours thrown off at different temperatures by various antiseptics. The volatility of the antiseptic used in a dressing has been considered of some importance. I have already pointed out that this is not sufficient to outweigh other considerations, and that the efficiency of a dressing depends rather on its material and on the ability of the antiseptic so to mingle with the fluids that they become unsuitable for the development of microzymes. I have ascertained, however, that the vapours of carbolic acid and eucalyptus, among others, are germicide at the temperature of the body.

It is possible that in this direction we may discover a substitute for the spray, as, for example, by rendering aseptic the air of the operating chamber. It has already been proposed by Mr M'Gill to pump upon the wound the vapour of eucalyptus. The following experiments, however, indicate that this is not sufficient.

1. Three ounces of eucalyptol were placed in a shallow dish on the floor of an incubator. This was closed and the temperature kept at 100° F. for an hour. Three three-inch beakers containing aseptic Darby's solution were then introduced, uncovered, and left in the incubator at the same temperature for two days. The beakers were then covered and farther incubated, but all remained perfectly clear.

2. If the experiment be repeated, with this variation, that the eucalyptol is exposed in the incubator for five minutes only before the introduction of the beakers, then all become turbid on incubation, even though they have been exposed for only twenty minutes.

3. Six fluid ounces of eucalyptol were placed on the floor of the incubator and kept at a temperature of 60° F. for one hour before the introduction of the beakers, which were left exposed for twenty-four hours. All, three in number, became putrid.

These experiments require, of course, repetition and variation to arrive at exact knowledge. But we can see that the elements of time and temperature are of importance, and that a mere draught of eucalyptol vapour is not enough. It is necessary that it be given off in a certain volume, under a certain heat, and that the air be exposed to it for a certain time.

In this direction, however, farther investigation is required, both as to the efficacy and innocuity of the various antiseptic vapours.

ARTICLE III.—*Sequelæ of Tracheotomy occurring after Closure of Tracheal Wound.* By J. MAXWELL ROSS, M.A., M.B., Surgeon for Diseases of the Throat, Western Dispensary, Edinburgh.

(*Read before the Medico-Chirurgical Society of Edinburgh, 7th February* 1883.)

STATEMENTS have recently appeared in various medical journals that serious lesions may occur as a result of the operation of tracheotomy without manifesting their presence till some time after the wound has healed. The details given are very meagre, but they indicate that the most important of these late sequelæ are conditions causing stenosis of the tracheal lumen. My attention was first drawn to these lesions by a case of tracheal stenosis which I was asked to see about two years ago, and have watched with no little interest since that time. The early history of the patient has fortunately been put on record by Dr P. H. Watson,[1] by whose kind permission I am enabled to give the following particulars:—

Helen Low, æt. 1 year and 3 months, was brought to the doctor by her mother on 7th January 1859, with symptoms of a foreign body in the larynx, and a history of a hook having entered on the previous day.

"Although convinced," says Dr Watson, "that a foreign body was lodged in the larynx, and that tracheotomy would be required, I sent the child to my own house, where I again saw it along with Professor Miller and Dr Matthews Duncan. They coincided in my view of the case, but thought that the effects of an emetic should be tried before proceeding to operate.

"Next day, as the symptoms continued precisely as before, and the child had passed a hook by stool, which indicated that, at all events, one foreign body had passed into the pharynx at the time of the accident, I determined to open the upper part of the trachea so as to remove the foreign body from the larynx. Accordingly, at 2 P.M., about forty-eight hours after the lodgment of the foreign body, with the kind assistance of Professor Miller and Mr Benjamin Bell, I opened the trachea above the isthmus of the thyroid gland, and on sponging away the blood, at once saw the hook end of the hook, which I laid hold of and extracted with a pair of forceps. There was very little bleeding, and it entirely ceased as soon as the tube was introduced.

"In the further history of the case there is little to note. The tube was changed frequently for the first three days, after this twice a day was found amply sufficient.

"A slight catarrhal attack was easily subdued by the use of ipecacuan, hot baths, and mustard poultices; and a good deal of feverish irritability and restlessness, with want of appetite, by scarifying the gums over four prominent teeth.

"It was not, however, until the end of a fortnight that I found I could safely dispense with the use of the tube.

"In six days after its removal the opening was completely closed, and since that time the child has continued perfectly well, the only trace remaining of the accident being the scar on the neck and slight hoarseness when she cries."

The subsequent history, as given partly by the patient and partly by an older sister, is to the effect that the hoarseness never quite passed off, but at times, more especially in damp weather, became much worse. At school she did not get on very fast, as she could not read well aloud. Neither could she sing. She now suffers occasionally from embarrassment of breathing, which sometimes, but not often, increases until she has quite a dyspnœic attack. It was in one of these, when she was a laundry-maid in the Royal

[1] "Two Cases of Tracheotomy on account of Laryngeal Obstruction produced by the Entrance of Foreign Bodies," in the *Edin. Med. Journal* for April 1859

Infirmary, that I first saw her (13th January 1881). She had complained of cold during the day. Symptoms of embarrassed breathing did not come on till after going to bed. These were sufficiently bad to alarm her companions into communicating with the Lady Superintendent, who sent for me. Entering the dormitory, I found a healthy-looking and apparently well-nourished young woman in bed, breathing with considerable but not extreme difficulty, both acts of respiration being somewhat noisy and embarrassed, inspiration rather more so than expiration. There was not much of the rapid heaving of the larynx which is seen in laryngeal dyspnœa. She spoke in a hoarse whisper, and informed me that she was beginning to feel easier. Looking at the neck, I noticed a scar above the thyroid isthmus, such as would indicate that the high tracheotomy operation had been performed. A few hurried questions elicited some of the facts which have been quoted. This led me to think that there might be something more in the case than appeared on the surface. I therefore had her removed to a private ward, and asked one of my fellow-residents to see her with me. His opinion was that the case was one of pure hysteria; and as, fortunately for her, no recurrence of the dyspnœa took place, several of those who saw her were inclined to consider this diagnosis correct. There were several elements in the case which it seemed to me were insufficiently explained on such an hypothesis. The laryngoscope set the matter at rest, for while it showed that hysteria was not the cause of the dyspnœa, it revealed an interesting and rare condition of both larynx and trachea. Examinations were made first by Dr Wyllie, three days after the dyspnœic attack, subsequently by myself on several different occasions, and still later by my friend Dr Hunter Mackenzie. These show that the epiglottis is natural, but that there is a tendency to catarrh, the mucous membrane over the arytenoid cartilages and ventricular bands having been observed to be puffy and congested at the time of the first examination and once or twice since, and some secretion was observed lying about. The ventricular bands obscure the vocal cords, which are seen to be poorly developed, and it is with difficulty that they are brought into view. The right can, however, be distinctly seen when the head is turned to the right side. A short distance below the level of the cords, on the anterior wall of the trachea, is a broad white scar corresponding in position with that on the outside of the neck. Below this, again, at the lower end of it, attached to the anterior and side walls, is what appears to be a shelving projection of mucous membrane, passing more than half-way across the lumen of the trachea, very much after the fashion of a hymen, and leaving only a triangular aperture for breathing, which looks not unlike a second and smaller glottis. It may be noted that the outside scar moves with some freedom over the trachea.

The chest is well developed. Percussion and auscultation do not reveal the existence of any pulmonary lesion. The family

is good, and I could find no trace of specific mischief in
ıerself or her sister.

not possible, I think, from the laryngoscopic examination
o come to an exact conclusion as to what may have occurred
case. The condition of the larynx may, perhaps, be due
h to the irritation set up by the foreign body as to the
tomy. The same can hardly be said of the tracheal stricture.
se relation to the cicatrix seems to indicate that it is
ted with it, and in some way, directly or indirectly, due to
ning of the trachea. It appears to me to be very different
ıe form of stricture which may occur in tertiary syphilis,
at, too, sometimes after tracheotomy has been performed.
other hand, it is not unlike the membranous growth that
en described in a few instances as following cut throat.[1]
er it is only a diaphragmatic membrane is a question that
suggests itself, but is not so readily answered. Two cases
een reported by Billroth[2] and Stoerk[3] of tracheal stenosis
ng without a previous tracheotomy or a syphilitic infection,
ı of which, by means of the laryngoscope, a "diaphragmatic"
re of the trachea was observed. Operation showed that the
re extended, as indeed Stoerk suspected from the symptoms,
o near the bifurcation, and that it was due to enlargement
mucous and submucous tissues. Stoerk considered that the
vere examples of the disease he has described as chronic
hœa of the nose, larynx, and trachea. Though it is not im-
e that a condition of the mucous membrane similar to that
ı Stoerk's disease may occur after a tracheotomy, the non-
ment of the posterior tracheal wall in the stricture seems
to make it doubtful that such a condition can have arisen in
ient. Nevertheless, cases like those referred to will make
ary of pronouncing too definite an opinion from the laryn-
ic appearances alone. It is better simply to record them
t going too much into what can as yet be little more than con-
as to their cause. There is nothing in the symptoms hitherto
ed to indicate the existence of a deeper and greater stenosis
ıat due to this apparent membrane. The occasional attacks
nœa which occur sometimes during an excess of the catarrh
ch she is liable are probably to a considerable extent spas-
in character, though the swelling and tumefaction of the
s membrane must have some influence in their production.

econd cause of post-tracheotomic stenosis is the occurrence
atricial Polypiform Vegetations, so called by their first
er, Dr Gigon of Angoulême. Of these at least fourteen
ıave been recorded.[4] Pathologically they are similar to the

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ıon, *Lancet*, 30th November 1878.
ical *Surgery*, p. 136 (Dent's translation), New Syd. Soc., 1881.
ron Pitha-Billroth, Abschnitt, *Laryngoscopie und Rhinoscopie*, p. 435.
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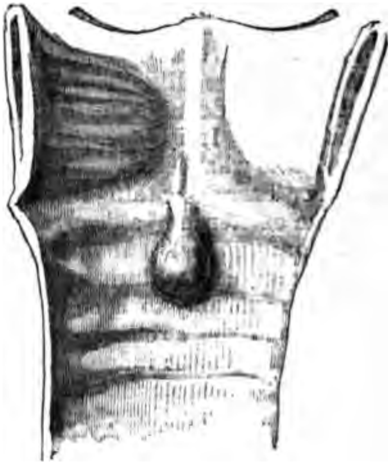
granulation growths which, as T. Smith[1] of St Bartholomew's and others have shown, sometimes cause serious respiratory difficulties on the removal of the cannula. The polypiform vegetations do not, however, manifest their presence till some days or weeks after the wound has healed. They are small tumours varying in size from that of a hempseed to that of a pea, found growing from the inner surface of the tracheal cicatrix, very often from either angle, but more often, so far as I can make out, from the inferior than from the superior. This has not been alluded to much, but may be of some importance in explaining their appearance after the wound has closed. In the majority of cases in which granulation overgrowths occur they are found to proceed from the superior angle, where, according to Pauli[2] and Völker,[3] the cannula presses least or not at all. They are thus free to increase rapidly and block up the lumen of the air-passage to such an extent as to cause urgent dyspnœa whenever the cannula is removed. On the other hand, the amount of pressure which may be exerted by the cannula on the lower angle is probably sufficient to prevent the rapid development of granulations at that spot. Its withdrawal may permit of their increase, which, under the conditions of respiration in the trachea, seems to lead more readily to the formation of a polypoid growth than to a granulation mass. They may also, but more rarely, grow from parts within the trachea where the pressure of the cannula has caused a sore. Sometimes these polyps are sessile and lobulated, but more frequently are pedicled and pyriform, as is shown in the accompanying



Cicatricial Polypiform Vegetation, growing from Tracheal Cicatrix. Enlarged from Wanscher.

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[1] *Lond. Med. Chir. Transactions*, xlviii. p. 227.
[2] *Centralblatt für Chirurgie*, 1877, No. 45.
[3] *Deutsche Zeitschrift für Chirurgie*, Bd. ix. S. 449.

etch taken from a case recorded by Wanscher[1] of Copenhagen. ie formation of the pedicle is probably due to the up and down ovement of the polyp which is caused by the alternate acts of iniration and expiration. Their microscopical structure, which has en investigated by Ranvier[2] and others, is found to be similar to at of the ordinary granulation growths which develop around tons and drainage-tubes. In one instance (Fyechter-Jung's case[3]) is mentioned that the examiner, Professor Roth, found the lyp covered by the ordinary epithelium of the air-passages. No ucous glands or corresponding structures have been observed in y of the tumours. They are very vascular, and this vascularity apt to be increased by strong respiratory efforts, which may lead congestion and œdema, and thus to great and rapid diminution the tracheal lumen.

An analysis of the fourteen recorded cases shows that the majority these granulation polyps occurred in children of the male sex, d that in most the high tracheotomy had been performed. The e-existing lesion in all but two was diphtheria. The cannula was t retained in any of the cases longer than a week or ten days.

Very rarely does it happen that symptoms are absent or are so ight as not to attract attention. The most characteristic are— .) A nocturnal respiratory bruit, snoring in character, and probly due to the dorsal decubitus allowing the pedicled polyp to against the posterior wall of the trachea, or even, in some cases, ainst the vocal cords. (2.) Respiratory embarrassment during the y, after any excitement, bodily or mental, cold, or similar condion. (3.) An increase, from time to time, of the nocturnal bruit, til it becomes loud and harsh, heard at a distance (in one instance was sufficient to disturb people sleeping in the next apartment), d at its period of maximum intensity partaking, according to rishaber, of the character of the mucous râle of the agony, after hich it subsides slowly, or the patient may awake gasping for reath. To this increased bruit the French observers have given ie name of *cornage*, a term borrowed from veterinary medicine. he respiratory troubles which occur during the day, after exertion, ay be caused by the increased rapidity of breathing setting the mour vibrating, and so giving rise to increased blood-pressure, hich may pass on to congestion and œdema, and thus cause great iminution of the air-lumen. The nocturnal *cornage* may be exlained similarly, though it is probable that there is also a collecon of catarrhal secretion giving rise to the mucous râle. rishaber is of opinion that the effect of the mental excitement is ue to spasm of the glottis occurring reflexly through the pneumostric. These symptoms are the precursors of more serious attacks of dyspnœa, which may end fatally unless tracheotomy be performed. Death may occur from spasm of the glottis, or from œdema following spasm, or, it may be, from diminution of the tracheal lumen by the œdematous condition of the polyp, or, lastly, the polyp may be projected between the vocal cords and retained like a foreign body.

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[1] For the translation of two cases recorded by Wanscher I am indebted to r George Berry, Assistant Ophthalmic Surgeon, R. E. I.

[2] *Bull de la Soc. de Chir.*, 1874, p. 108.

[3] See Bibliography.

Of the recorded cases, four died before operation could be performed, in one instance with extraordinary rapidity under the eyes of the surgeon, the fatal dyspnœa being due to the mental excitement caused by his approach. In seven, a second tracheotomy saved the patients' lives. Five of these made a good recovery, no recurrence of the polyp taking place; but in the other two a third tracheotomy had to be performed, and at the time of reporting the patients were still wearing the cannulæ. In one case the polyp was expelled through the glottis by cough, and the patient subsequently did well. In two the tumours were found by accident at the autopsies, death having occurred from other causes.

The diagnosis does not present much difficulty. There is the previous tracheotomy, with perhaps a tendency of the wound before healing took place to exuberance of granulations, as well as the symptoms described. Spasm of the glottis or other form of laryngeal dyspnœa may be distinguished by attention to the symptom first pointed out by Gerhardt, the great energy of movement on the part of the larynx, a condition which is absent in tracheal dyspnœa. The differential diagnosis from stricture of the trachea will be found more difficult; but this may be arrived at by attention to the previous history of the case and the length of time which has elapsed since the tracheotomy was performed, stricture, if it occurs, taking a much longer time to do so than the granulation polyp. The laryngoscope may be used as an aid towards the diagnosis; but it ought to be done cautiously, for Krishaber is of opinion that there is a certain amount of danger from spasm. On this account he refused to examine Archambault's patient unless preparations were made to perform tracheotomy on the spot, should it have been necessary.

In addition to these important forms of stenosis, it is probable that laryngo-tracheal and nervous derangements, such as spasm of the glottis, may occur as late sequelæ of tracheotomy. The catarrhal inflammation, as every surgeon knows, is one of the most common and troublesome of the various conditions that may occur during the after-progress of patients who have required the performance of the operation. That the tendency to it may remain long after the wound has healed is illustrated by a case that came under notice at the Western Dispensary last summer.

Alex. A., æt. 14, complains of soreness of the throat. The voice is very hoarse. External examination shows a scar in the middle line of the neck below the isthmus of the thyroid. Patient's mother states that he had croup in January 1879, and was sent to the (old) Royal Infirmary on the 31st of that month. Mr Joseph Bell operated at once on his admission. This is verified in the Infirmary operation-book. Patient did well. The tube was removed on the seventh day, and he was discharged cured on 24th February. Since then, his mother states, he has had occasional slight attacks of hoarseness and soreness of the throat. The laryngoscope shows considerable congestion of the mucous membrane of both larynx and trachea, and a little mucous secretion lying here and there. A glimpse got of the inner cicatrix. It appears to be quite healthy.

This tendency to catarrhal inflammation might be considered a result of the croup rather than of the tracheotomy, but several of the French observers state that it is much more liable to happen after the trachea has been opened. Sanné and others relate similar cases. The catarrh in Helen Low's case may be another example of the same.

With reference to the nervous sequelæ, spasm of the glottis may occasionally happen on removal of a tube in which there has been no laryngeal opening, when the air passing through the larynx for the first time for some days may give rise to spasm. Petel[1] asserts that it may occur later, some time after the wound has healed, and quotes a case (recorded by M. Josias) of a child, æt. 16 months, whose trachea had been opened for œdema glottidis occurring after the suppuration and incision of a glandular phlegmon in the neck. Three weeks after cicatrization of the tracheal wound spasmodic attacks of dyspnœa came on. They were treated with bromide of potassium and tincture of valerian, and disappeared in a fortnight. It is a fair question, I think, whether the laryngeal condition did not have more to do with the production of this spasm than the tracheotomy. A peculiar symptom, apparently of nervous origin, is mentioned by Koch[2] as occurring in the case of a boy (age not given) whom he was asked to see about a year after tracheotomy had been done for diphtheria. The wound had healed slowly, and left a broad, well-marked scar, very slight pressure on which readily caused cough, while unusual exertions brought on some respiratory difficulties. A careful laryngoscopic examination was made, but no abnormality could be detected. There was no chest lesion. Such a condition as this is perhaps best accounted for on the supposition that a slight nervous derangement of the larynx has occurred after the tracheotomy. It is also not improbable that a twig of the superior laryngeal nerve may have been caught in the cicatrix.

The importance of these lesions is sufficiently evident. It is just possible that they, and perhaps others with which we are not yet sufficiently acquainted, may be more common than is supposed. The interesting question, "What becomes of children who have been successfully tracheotomized?" has been recently exercising the minds of surgeons, more especially on the other side of the Channel, and Dr Mougeot (de l'Aube), in a note communicated to the French Academy of Medicine[1] not quite two years ago, makes the remarkable statement that very few of the children successfully operated on for affections requiring the more or less prolonged retention of the cannula attain their majority. Military surgeons whom he had interrogated for over twenty years on this subject declared that they had never seen a conscript with a typical tracheotomy cicatrix, while between himself and a large number of professional brethren he could obtain knowledge of only six authentic cases of adults who had had the operation performed on them for croup in their childhood, and of these it was probable that two were reported twice. He also states that he had seen three patients who had been successfully operated on die before their twelfth year. Unfortunately, details of these cases are not given, but that the fatal results must have been, in Dr Mougeot's opinion, due to conditions occurring as late sequelæ of the opening of the trachea is evident from the tone of the communication. The *Medical Press and Circular* of 4th May 1881, commenting on this note, speaks of pulmonary emphysema and laryngeal phthisis as often following tracheotomy. I do not know whether cases of these maladies caused in such a way have been reported, but it is not impossible that a tendency to laryngo-tracheal catarrh occurring in a patient predisposed to tubercle may be followed by laryngeal phthisis. On the other hand, tracheal stenosis occurring without a previous tracheotomy may lead to pulmonary mischief, and in such cases death may take place " from coma following on pneumonia or œdema of the lungs " (Morell Mackenzie).

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[1] *Des Polypes de la Trachée.*

[2] *Archiv für Klin. Chirurgie*, Bd. xx. p. 555.

The treatment of these various sequelæ may be preventive, palliative, or radical. The preventive treatment introduces questions which are still *sub judice*—for example, the substitution of tubage of the larynx for the opening of the windpipe, and the use of tubes after operation. The former procedure seems to be increasing in favour, but it can never entirely supersede tracheotomy. Nor do I think it should be attempted except it can be carefully done with the assistance of the laryngoscope. The use of tubes is, even more than tubage of the larynx, matter of controversy. Are we, with Martin, to dispense with them entirely? Or, if not, shall we adopt the soft rubber cannula of Morrant Baker, or the vulcanite, or the silver instrument? Dr Mougeot recommends the adoption of Martin's method; but if Pauli and Völker are correct in the view they have taken of the occurrence of granulations at the upper angle of the tracheal wound, it does not seem that the absence of a cannula any more than the choice of a particular form of that instrument, will alone prevent the formation of granulations. Should they occur, however, they will be more readily seen when a tube is not in the trachea. The wound should be carefully watched, whatever method be followed, and in the case of croup the toilet of the trachea, as recommended by Pilcher[1] of Brooklyn, should also be attended to. Wherever granulations occur they must be vigorously cauterized; but in doing this, or in removing exudate, it should be remembered that a peculiar projection of the posterior wall may take place in young children from an incurvation of the tracheal cartilages caused by the insertion of a cannula. Carrié relates a case of this nature, in which a reddish mass in the interior of the windpipe, supposed to be granulations, was cauterized. The little patient died immediately in a fit of suffocation. The autopsy showed the condition mentioned, the posterior tracheal wall being thrown into a longitudinal fold by the approach of the free ends of the cartilages towards each other. Pilcher states that he mistook a similar appearance in one of his cases for a mass of exudate, and tried to remove it by forceps. To obviate its occurrence he recommends the removal of a portion of the anterior wall in order to allow of the easy introduction of the tube, a proceeding which I do not think can be recommended, as it may lead, by contraction, to an uncomfortable stenosis of the trachea. As internal granulations are not so readily observed, it may be well, in cases where there is reason to suspect their existence, to examine laryngoscopically both above and below the glottis before allowing the wound to close. If a mirror cannot be used through the wound, we may follow the example successfully set by Voltolini[2] in searching for a foreign body in the windpipe, and employ Brunton's ear speculum.

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[1] " Sur les suites lointaines de la trachéotomie," *Bulletin*, 5 avril 1881.

With regard to the palliative and radical treatment, the former is not to be recommended except in such a case as Helen Low's, where there is a tendency to catarrh of the larynx and trachea besides the stricture. This tendency is being combated by the use of inhalations and similar remedies. An attempt might be made to get rid of the stricture by means of a cutting dilator, but its depth in the windpipe, as well as the doubt that exists as to what may be the condition beneath, makes one chary of venturing on it in the meantime. In the event of the stricture increasing, which it certainly has not since I first saw her, or the dyspnœic attacks becoming more frequent and urgent, or lung mischief threatening, it might be tried; but it is probable that a repetition of the tracheotomy would more easily allow us to deal with the stricture. Laryngitis and spasm of the glottis must be treated on general principles. Where cicatricial polypiform vegetations begin to manifest their presence, it would seem better to reopen the trachea as soon as the diagnosis is made, than wait till the patient is in the last stage of asphyxia. The operation is best performed at the seat of the first tracheotomy, and the growth should be looked for, removed, and its base cauterized, before a tube is inserted. Care must then be taken to prevent its recurrence. In one of the cases the granulations grew from the superior angle, but sufficiently slowly to allow cicatrization of the wound to take place before respiratory difficulties occurred. A second tracheotomy was performed, but the granulations could not be removed. An attempt was made by means of bougies passed from below to dilate the stricture they formed. The result was not encouraging. The stricture returned after the wound was allowed to close, and necessitated a third tracheotomy. The patient was still under treatment at the time of reporting.

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[1] "On the Care of the Trachea after its Incision for the Relief of Croup," *Annals of Anatomy and Surgery*, Brooklyn, September 1882.

[2] "Eine Nusschale 10 Monate lang in der Luftröhre eines 10 jahr. Knaben," *Berl. Klin. Wochenschr.*, 1875, No. 6 (Schüller's Bibliography).

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ARTICLE IV.—*Case of Strangulated Congenital Inguinal Hernia.* By PETER HUME MACLAREN, M.D., Senior Assistant Surgeon, Royal Infirmary, Edinburgh.

CASES of strangulated hernia derive an interest from a kind of individuality they exhibit, for the majority manifest some variations from the typical form which may or may not have a practical bearing; but whenever these deviations lead either to dubiety of diagnosis or modifications of practice, the case, as in the present example, seems worthy of being recorded.

At 7 P.M., November 18th, in the absence of Mr Bell, I was called to the Infirmary to treat a man, æt. 38, suffering from symptoms of strangulated hernia. In the note from the house-surgeon summoning me it was mentioned that the patient was "sick and in very great pain," which had been constantly present since the beginning of the attack, which took place at 11 A.M. same day.

I learned on my arrival at the hospital that taxis had been attempted under chloroform without success, but that although the tumour was unaltered, the pain had ceased entirely, except when the scrotum was touched. A similar but less severe attack had occurred five years ago for the first time, when the bowel was reduced by Mr Bell, and a truss had been worn for a year or so; but after that he had left it off altogether. The patient properly enough attributed the reappearance of the tumour to a troublesome spasmodic cough from which he suffered. Although there had been constant sickness since the moment of seizure, there had been no vomiting, and the bowels had been opened in the morning. A flattened ovoid elastic tumour, two inches in its longest diameter, occupied the right pubic region, and was freely movable over an area of three or four inches, and could be drawn easily into the upper part of the thigh, so that Poupart's ligament could be distinctly traced throughout its whole extent; but in its natural attitude it lay on the abdominal wall covering the inner fourth of Poupart's ligament. No fulness was observed in the inguinal canal. The right half of the scrotum was swelled to the size of a goose egg, and joined the upper movable tumour at the root of the penis, where a transverse linear depression in the skin marked the junction. This swelling was heavy, firm, smooth, elastic, and non-translucent. Not being able to obtain any definite history of the former symptoms or their mode of development, I was uncertain whether the scrotal tumour was serum, blood, or omentum, nor could I absolutely decide whether the strangulated hernia was femoral, direct, or ventro-inguinal, the natural appearance of the inguinal canal being strong evidence against the idea that the rupture might be an oblique inguinal.

The only course, then, was to open the sac, discover the nature of its contents, and trace the bowel to its point of exit. Accordingly I made a diagonal incision from the root of the penis for two inches across the tumour, and dissected down to the sac, which, when pinched up and opened, allowed three or four ounces of bloody serum to escape. This at the same time disclosed about four inches of small intestine, quite black but glossy, which could be traced to the external inguinal ring. Its division was not of the least avail in relieving the constriction of the bowel. I now saw that I had to do with a congenital hernia, that the whole undilated inguinal canal, and probably the internal ring, were the seats of the compressing force, and that it would be necessary to lay these open before reduction could be accomplished. Accordingly I made another incision over the canal 2½ inches long, joining my transverse cut at its centre, dissected carefully until I had exposed the whole canal and reached the internal ring, whose aperture did not exceed the point of the little finger. Introducing carefully a flat hernia director into the upper segment, I notched it with a probe-pointed bistoury, withdrew a small portion of bowel to ascertain the condition of the constricted parts, and finding these living and free from inflammatory deposits, I returned the rupture to the abdomen. Three or four small vessels were tied as the dissection proceeded, and before closing the wound with catgut sutures a drainage-tube was inserted just within the internal ring, and another at the lowest part of the transverse incision.

After the operation the patient's pulse was 68, of good strength, and on being placed in bed an opium pill was administered.

The progress of the case was uninterruptedly satisfactory, the highest temperature ever attained being 100°·6 on the evening of the 19th November. The bowels were opened for the first time on the seventh day. Antiseptic dressings were discontinued on the eighth, and the patient was dismissed cured seventeen days after admission.

Remarks.—The position and mobility of the upper swelling, the uncertainty regarding the nature of the scrotal tumour, and the absence of fulness in the inguinal canal, constituted the peculiarities and occasioned the difficulty of diagnosis in this case.

An inguinal or ventro-inguinal hernia, as soon as it emerges from the parietes of the abdomen, makes for the scrotum, and is capable of a very slight degree of movement, and in the first case is easily traceable in the inguinal canal. A femoral hernia, if it is large enough to displace the cribriform fascia, turns up over the abdomen, and may be moved downwards and slightly laterally, having Poupart's ligament above it and the spine of the pubes to its inner side. While the upper two-thirds of the movable tumour were clearly defined, the lower third could not be disengaged from the scrotal part, which closely followed every variety of position. As I said above, the scrotal swelling was not translucent, and no information regarding the time and mode of its appearance could be obtained from the patient, exhausted with pain and nausea and confused from recent chloroforming, so that it was impossible to decide what relation the contents of this swelling had to the pubic.

I declined the use of an exploratory trocar, as the information it conveys is very limited, and there was risk of injuring bowel or omentum if present.

After I had opened the sac, evacuated the bloody serum, and found the blackened bowel and testicle lying in the same cavity, the anomalous combination of symptoms at once became plain. The excessive effusion of serum mingled with blood had distended the sac to its utmost capacity and floated the bowel into its present unusual position, and at the same time explained the capability of its extensive change of relations to the usual landmarks. The division of the external ring gave no relief, as the stricture existed along the whole length of the canal, and accordingly that as well as the internal ring required to be laid open.

This feature of strangulated congenital inguinal herniæ, invariably present, unless a portion of omentum or an undescended testicle has acted as a wedge and opened up the canal, explains the futility and danger of attempting reduction by taxis. The cessation of pain which followed the house-surgeon's application of this mode of cure showed that the pressure to which the bowel had been exposed had been sufficient to deprive it of the last vestiges of vitality. Not unfrequently rupture of the bowel or of the sac has been caused by this inappropriate remedy. The firm, thickened, fascia-like texture of the sac accounted for the absence of fulness in the inguinal canal, and at the same time explained the remarkably dark appearance of the bowel after only eight hours' strangulation.

While a truss may, if constantly worn in the upright position, cause obliteration of the infundibulum and cure of congenital hernia in a child, it can only have a preventive action in an adult. But as carelessness or accident may induce a protrusion of bowel which in a few hours may endanger the patient's life much more readily than in any other form of hernia, I think it is the duty of every surgeon to explain the grave risk to the patient, and to offer him the alternative of an operation—I do not say a radical cure—by which closure of the canal may be effected by a simple incision of the sac, as in the present case; or, by separating the neck of the sac from the cord, tying it in two places, and dividing the intermediate portion, the passage of fluid from the peritoneal cavity will then cease and allow the inguinal canal to contract to safe dimensions, if it does not close entirely.

Any one interested in the department of surgery to which this case belongs, and anxious to know it in all its bearings, will find in the late Professor Spence's book a lecture on the "Dangers of Strangulated Congenital Hernia," in which every feature of the present case, except the unusual position of the bowel, is fully recognised and described with the lucidity and completeness of a master.

ARTICLE V.—*On Dangerous Hæmorrhage from the External Genital Organs during and after Labour.* By PETER YOUNG, M.D., F.R.C.P.E., Lecturer on Midwifery and Diseases of Women in Edinburgh School of Medicine, and Physician-Accoucheur to Royal Dispensary.

(*Read before the Edinburgh Obstetrical Society, 31st January* 1883.)

WHEN hæmorrhage, especially of a severe type, occurs during or after parturition, one instinctively thinks of it as being due to the premature separation of the placenta or to inadequate uterine contraction; and in the great majority of instances this is the state of matters, as is shown by the fact that when the placenta is expelled and the uterus is made to contract vigorously the hæmorrhage ceases immediately. It occasionally happens, however, notwithstanding the contracted state of the uterus, that the hæmorrhage continues, and may even prove fatal. The practitioner, therefore, who merely looks to the condition of the uterus as affording a reliable sign for the safety of the mother, and who, ignorant of or ignoring the fact that profuse and even fatal hæmorrhage may take place from a ruptured cervix or from lacerations of the external genitals, will run great risk not only of imperilling, but even of sacrificing the life of his patient. With the view of drawing attention to the importance of rupture of the vaginal orifice at its anterior circumference during parturition, I take the liberty of recording two cases, in one of which death occurred speedily from hæmorrhage, while in the other the patient had a narrow escape for her life.

CASE I.—On the 23rd September 1877 I was summoned hastily to attend a woman who, according to the statement of the messenger, had given birth to a child a few minutes previously, and was suffering from alarming hæmorrhage. On arrival at the house, about fifteen minutes after the birth of the child, I found the patient, a young woman of 25 years, and who had been twice previously confined, unconscious. The pulse at the wrist was scarcely perceptible, the limbs were extended and motionless, the skin was of a pale yellow colour, the pupils wide and expressionless, the features distorted, and the mouth open. On raising the bedclothes, a large quantity of blood, partly coagulated, lay under the thighs. All hæmorrhage had ceased. On placing the hand over the uterus, it was firmly contracted, and did not project more than 3 or 4 inches above the symphysis pubis. On internal examination with the finger, no laceration either of the cervix or of the vagina could be detected. As the case was urgent, and it was of paramount importance to prevent any further loss of blood, I immediately plugged the vagina and applied a firm compress over the vulva. Attempts were now made to rally the feeble powers of the heart by injection of whisky into the rectum, rubbing the extremities with warm flannel dipped in turpentine, and the application of a mustard poultice over the præcordium; but these proved unavailing, and all signs of life ceased in a few minutes.

On inquiry I found that the patient, who had never suffered from any serious illness, experienced slight pains at 4 A.M., which gradually increased in intensity. At 7 o'clock A.M., when the midwife was called, the pains were strong, and recurred about every five minutes, and at half-past 7 the "waters" broke. The pains now became stronger, accompanied by strong expulsive efforts, and in consequence of these the head descended rapidly through the genital passages, and the child was born about ten minutes to 8 o'clock. The child, a boy, was strong and vigorous, and cried lustily. As the head of the child emerged from the vulvar orifice, the midwife observed blood pouring over it in considerable quantity and soiling her fingers.

After the expulsion of the child the bleeding continued as profusely as ever, and with the view of arresting it as speedily as possible the placenta was removed and the uterus forced to contract. This procedure, however, proved unavailing, and it was only when the patient swooned that the hæmorrhage showed any signs of abatement. Becoming now alarmed at the state of the patient, I was hastily summoned, and found her in the condition already described. As it seemed to me of importance to ascertain, if possible, the exact source of the hæmorrhage, a post-mortem examination was asked, and, after some difficulty, allowed.

The internal organs generally were pale and highly anæmic. The cavities of the heart were empty, and its muscular substance firm and well developed. The endocardium presented several irregular-shaped whitish patches, due to slight thickening of its structure, but otherwise appeared to be healthy. The lungs were pale and elastic. The apex of the left lung was slightly adherent to the thoracic wall, and on section presented a dense cicatricial substance a quarter of an inch in diameter, of roundish form. The abdominal organs, like the thoracic, were highly anæmic. The liver and kidneys, as well as the intestines, appeared to be healthy. The surface of the uterus was smooth and glistening, and its muscular substance well developed and firmly contracted. The cavity was empty. At the placental site, on the posterior surface, near the fundus, there were numerous small clots filling the sinuses, from which they could be readily displaced on pressure. The cervix was soft and flaccid, and measured two inches in length. The external os presented a bruised appearance and several slight tears. The vagina was large, and its walls thickened. On the posterior wall there were several patches of ecchymosis underneath the mucous membrane. On examining the external genital organs carefully by separating the labia with the fingers and exposing the parts to a good light, there was found a distinct tear five-eighths of an inch long, extending from the left side of the urethra upwards to the left of the clitoris. The bottom of the wound, which was about seven-eighths of an inch deep, presented a spongy appearance, the spaces of which communicated freely with each other and with the underlying veins. In addition, two or three small vessels torn across, and which were afterwards found to have the structure of arteries, could be distinguished. Besides the tear just described, there were numerous ruptures of the mucous membrane around the vaginal orifice. These lesions were extremely shallow, and it was mainly by bringing their edges together that they could be demonstrated. There was no appearance of varices either in the pudendal or vaginal veins.

Case II.—Mrs S., æt. 22, primipara, was seized with labour pains on the 25th August 1882 at 4 A.M. The pains at first were moderate, but soon becoming stronger, I was sent for at 7 o'clock. As the patient lived at some distance, it was half-past 8 o'clock before my arrival, when I learnt that she had given birth to a full-sized female child a few minutes previously. As I entered the room, the nurse, who was naturally much agitated, informed me that as the head of the child was passing through the vulva smart hæmorrhage occurred and was still going on. Without a moment's delay I placed my hand over the uterus, and finding it well contracted, I at once suspected that the hæmorrhage must be proceeding from the lower portion of the parturient canal. On removing the bedclothes and separating the labia, the source of the hæmorrhage was readily seen to be a tear about one and a half inches running from the neighbourhood of the clitoris, on the left side, downwards towards the urethra. By placing my finger on the spot and pressing it against the symphysis and descending ramus of the pubes on the left side, the bleeding was completely arrested. By this time the patient had lost a very considerable amount of blood, and was in a fainting condition. The administration of a spoonful or two of brandy soon brought her round. The placenta was then removed by abdominal pressure, the finger being still kept applied over the vestibular tear. In about five minutes the pressure was removed, when the bleeding was found to have ceased. To avoid any recurrence of it, two metallic sutures were introduced to close the wound, and a compress of lint sprinkled with boracic acid and secured by a bandage applied. The urine was drawn off by the catheter for a couple of days, partly on account of a difficulty in micturition, and partly to avoid undue tension of the wound. The sutures were removed on the seventh day, when the wound was found to have healed perfectly. The patient made a good but slow recovery, and, owing to her anæmic condition, was not allowed to suckle her child.

It seems to me that these two cases are highly instructive in showing the great danger attendant on rupture of the structures in the neighbourhood of the vestibule, and the urgent necessity of early interference if a fatal issue is to be avoided.

With regard to the first case, the state of the wound as found after death does not admit of a doubt that the hæmorrhage was partly arterial from the small arteries discovered to be torn across, and partly venous from the numerous sinuses and veins of the spongy vascular tissue seated beneath the mucous membrane of the vestibule. In the second case, the complete arrest of the bleeding on firmly pressing the torn structures against the subjacent bone points conclusively to the real source of the hæmorrhage.

During parturition, cracks and fissures of the mucous membrane of the vaginal orifice are very common, but, except as possible loopholes for the introduction of septic matter, are for the most part of no importance. The vaginal orifice is naturally so narrow that the passage of the head of the child is almost always accompanied by laceration of the mucous membrane. This is always the case in primiparæ, and even in multiparæ they are seldom absent. In the latter they are apt to be overlooked from their small size and the absence of bleeding. These rents and lacerations are found at all parts of the circumference of the vaginal introitus, but are especially frequent in primiparæ in the fossa navicularis, even when the fourchette is uninjured. Sometimes portions of the mucous membrane are torn completely off, or hang loose from the walls in the form of irregular shreds of variable length and breadth. In multiparæ the injury to the mucous membrane presents itself in the form of delicate cracks arranged in a radiating manner.

According to Winckel (*Pathologie des Wochenbettes*, p. 46) one or both nymphæ are sometimes torn across or broken up into several lobules. According to the same authority, deep lateral rents involving the nymphæ and labia majora also occur without any rupture of the perineum posteriorly. Much more frequently, however, we find slight injuries to the mucous membrane in the neighbourhood of the vestibule and on the inner surface of the nymphæ. They vary in size, are often close together, and have irregular borders. Frequently they occur at the opening of the urethra, and give rise to pain during micturition. Sometimes, also, the tissues become swelled from the irritation of the wounds by the urine, and ischuria is the result. Of twenty-five cases carefully examined by Matthews Duncan (*Papers on the Female Perineum*, p. 28) the vestibule was torn in sixteen cases. These lacerations had sometimes the character of deep abrasions, but generally were very like incisions or clean, sharp-edged cuts, and these often bled freely and for a long time. Some of them bled freely when their edges were separated two days after their occurrence, but none of them caused alarm or required special attention. In all the cases observed by Duncan there was always laceration of the mucous membrane at the posterior margin of the vaginal orifice, although in ten of the cases the perineum itself escaped unhurt, the fourchette being entire. While, therefore, apart altogether from the larger and well-known lacerations of the perineum proper, tears of the mucous membrane at all parts of the circumference of the vaginal orifice as well as that of the nymphæ are much more common than is generally supposed, these do not generally give much trouble. The bleeding which takes place from them is usually trifling and seldom calls for active interference. It is different, however, when the tears at the vestibule extend even to a slight extent beneath the mucous membrane and involve the highly vascular tissue situated at that portion of the vulva. Fortunately these deeper lacerations are much more rare than the superficial ones just described. In 1900 cases of parturition, Winckel (*loc. cit.*, p. 101) observed them only in six, and in all of them the hæmorrhage was arterial. Klaproth (*Monatsschrift*, Bd. xiii. p. 1) reports five cases of severe hæmorrhage from lacerations of the vestibule, all of which were venous. Schrœder (*Geburtshülfe*, 1872, p. 559) met with this form of hæmorrhage seven times in 286 cases of parturition. In none of these cases was the hæmorrhage fatal, although in all it was severe. P. Müller (Scanzoni's *Geburtskunde*, Bd. vi. pp. 148, 156, and Bd. vii. p. 201) reports six cases of this kind, in all of which the hæmorrhage was alarming, and in three of them proved fatal. Cases of fatal bleeding from this cause are also mentioned by Poppel (*M. f. G.*, Bd. xxviii. p. 298), which show the great importance of laceration in the vicinity of the vestibule. With regard to the etiology of these ruptures, there can be no doubt that, like the more common lacerations of the vaginal and vulvar orifices, the immediate cause of them is the passage of the head of the child. But there must be other predisposing or concurrent causes at work, otherwise they would be much more frequent than they actually are. As might be expected, they are more common in primiparæ, in whom the genital orifices are narrower and their walls are firmer and less distensible. Their occurrence, however, as we have seen, is not confined to primiparæ, and they may take place in multiparæ even when the labour has ended naturally and without any artificial aid. A good example of this is furnished by the first case which I have recorded. One would naturally suppose that a varicose condition of the vessels of the external genital organ would predispose to such ruptures, but such a condition was absent in the cases which have come under my observation. On the other hand, I have repeatedly seen cases where the veins of the vulva were in a varicose state, and sometimes in a very marked degree, without any hæmorrhage occurring requiring interference. Sickel, in 12,612 births, saw severe hæmorrhage occur only twice from the bursting of a varix in the vagina, and Streng six times in 2936 births (Winckel, *Pathologie des Wochenbettes*, p. 101). Perhaps the chief cause will be found to consist in a too rapid expulsion of the head of the child, combined with inelasticity or friability of the maternal tissues. It is obvious that when the head of the child is extruded rapidly the maternal structures will be more apt to tear and give way than when they are slowly dilated. At the same time, the friability of the tissues may be so great that even moderate pressure and distention cannot be withstood. Matthews Duncan (*loc. cit.*, p. 14) has well observed, "In certain cases there is what may be called rottenness of tissue, which destroys the power of the tissues to resist laceration or bursting. In some women, and occasionally, at least, very markedly in the syphilitic, this condition is very easily demonstrated. It is a condition, also, of many inflamed tissues, and this is exemplified in the perineum." It might be thought that undue support of the perineum, by pushing the occiput against the pubic arch, would contribute to the production of the laceration in question. This may be; but it is to be remarked that in the second case the perineum was not interfered with at all, and in the first case the midwife informed me that she supported the perineum just as she was in the habit of doing. In two of the fatal cases recorded by P. Müller the forceps were used to terminate the labours, and it might be thought that the lacerations in these cases were due to premature or excessive traction forwards of the head of the child, by which the latter would be forced against the anterior circumference of the vulva. Against this supposition Müller remarks that in one of the cases, which, moreover, was a multipara, the hæmorrhage occurred before the largest circumference of the head of the child appeared under the pubic arch, and before the forceps were moved forwards in the direction of the axis of the outlet of the pelvis; and in the other case, while using every precaution in the extraction of the head, and even making a lateral incision into the vulva to assist in the dilatation of the genital orifice, the fatal rupture occurred. It would seem, therefore, that in some cases the vestibular tissue, like the perineum and other structures of the vulva, is very friable and inelastic, so that the extrusion of the child is accompanied by an unavoidable laceration of its substance. It is of importance that this fact should be recognised, otherwise the practitioner might be unjustly held responsible for what it was beyond his power to prevent. Of course it cannot be denied that too great pressure on the perineum during the expulsion of the head, or undue forward traction with the forceps, may result in laceration of the vestibular tissues, and it will be well to remember this in the management both of ordinary and of instrumental labours.

Diagnosis.—It is highly necessary to remember, in cases of hæmorrhage during labour, that the source of the bleeding is not always intra-uterine, otherwise valuable time is apt to be lost by exclusive attention being paid to the condition of the uterus. In addition to the more common cases of hæmorrhage due to a non-contracted condition of the uterine walls, we may have profuse bleeding from rupture of the cervix or from laceration of the vestibular tissue. Sometimes, also, we have a certain amount of hæmorrhage from tears of the vagina and of the perineum when some of the arterial branches of these structures happen to be implicated; but the bleeding from these sources is seldom great, and does not often call for active interference. It is different, however, in lacerations of the cervix uteri or of the vestibule. When these parts are involved the bleeding may be very serious, so that it becomes of the highest importance to recognise the source of the bleeding at the earliest possible moment. In hæmorrhage from laceration of the vestibular tissue there are several peculiarities which distinguish it from bleedings of other parts of the genital tract.

In the first place, it almost always makes its appearance just as the head of the child is passing through the vulva, so that the bleeding begins with the birth of the head, and before the expulsion of the body of the child. In the second place, when the hæmorrhage comes from the uterus or vagina, the blood flows out of the posterior circumference of the vulva; in the cases under consideration the blood flows from the neighbourhood of the symphysis. All doubt as to the source of the bleeding will be dispelled by ocular inspection of the vulva. On separating the labia and sponging the part firmly, the tear will be noticed as a deep red spot surrounded by paler red tissue, out of which the blood flows freely as soon as the pressure is removed. With the view, therefore, of making a rapid diagnosis, it seems to me advisable, in all cases of hæmorrhage, when the uterus is firmly contracted, not to wait till the placenta is extruded, nor to lose valuable time by making a digital exploration of the vagina to ascertain if the cervix uteri or the vaginal walls are lacerated, but at once to make an ocular inspection of the vulva in the way above described.

It is to be noted that massage of the uterus always increases the flow of the blood from these lacerations, as well as from those of the vagina and cervix uteri. This occurrence is easily explained by the free anastomosis which exists between the uterine veins and those of the vagina and vulva, and by the absence of valves in their walls, so that when the uterus is pressed its blood is readily driven down into the lower portions of the genital tract.

From the foregoing remarks it will be gathered that we may suspect the existence of a laceration of the vulvar structures between the clitoris and the urethra when profuse hæmorrhage occurs on the expulsion of the head of the child, and is not only diminished, but is absolutely increased, by pressure on the uterus, and that suspicion will be converted into certainty by making an ocular inspection of the vulva in the way already described.

Prognosis.—It is not necessary to say much under this head. It is obvious that it depends upon the amount of blood which is lost, and this, again, on an early or late recognition of the existence of the laceration. To one who has had no experience of these cases it is hardly credible how quickly fatal hæmorrhage may take place from even a small tear.

Treatment.—This consists in immediate arrest of the hæmorrhage by placing the finger either directly, or interposing a piece of cotton-wadding or sponge between the finger and the tear, and pressing against the subjacent bone. This should be done at once as soon as the hæmorrhage is noticed. It is dangerous to delay till the expulsion of the child or of the placenta is completed. The contraction of the uterus and the downward pressure of the child and of the placenta fill the vulvar veins with blood, and thus tend to aggravate the hæmorrhage. As showing the importance of this rule, I may mention that Müller (*loc. cit.*, p. 156), in one of his cases where delivery was effected by the forceps, attributes the fatal result to its non-observance. If, after keeping up the pressure for some minutes, the bleeding is found to have ceased or to have become very moderate, the edges of the wound may be brought together by metallic or twisted sutures and a compress applied. If, however, the bleeding is at all severe, the tampon of cotton or sponge may be fixed in its place, and pressure kept up by passing several needles through the labia majora. In some cases where the laceration is very shallow and the bleeding not very great, the application of sol. of perchloride of iron or other hæmostatic that may be available will prove sufficient. It is scarcely necessary to add, that when death threatens to take place transfusion should be performed. In the fatal case recorded by me I proposed to perform transfusion, but, unfortunately, death supervened before the necessary arrangements could be carried out.

ARTICLE VI.—*An Improved Method of Circumcision for Congenital Phimosis.* By NEIL MACLEOD, M.D. Edin.

IN congenital phimosis, besides the more or less narrow orifice, adhesion between the inner layer of the prepuce and the surface of the glans penis is present in every case. In the ordinary method of circumcision, after the redundant prepuce has been cut off, it is frequently troublesome to separate this inner layer from the tiny glans, wet and slippery with blood. By a slight change in the order of procedure, these adhesions can be got rid of *before* cutting, and also the necessary sutures can be passed before the parts are obscured or rendered slippery with blood, while the preputial mucous lining is less roughly treated than in the usual plan.

The last case I operated on, in a child of two years, scarcely admitted the point of a probe through the orifice in the prepuce, but by dilating this orifice forcibly with "sinus forceps," and the addition of a few tiny snips with scissors round the margin of the orifice thus dilated, the foreskin could be drawn back until the point of the glans showed itself. Further retraction was prevented by the adhesions referred to, but these were easily broken down by means of a probe passed between the prepuce and the glans, and this done until the corona glandis was exposed in its whole extent. The prepuce was next replaced forwards, and the amount to be cut off was marked by a clip arrangement made by tying two ordinary directors, groove to groove, at one end and slipping the prepuce into the clip formed by the untied ends. Three carbolized silk threads were then passed through the prepuce at equal intervals close to the clip on its proximal side, the glans being guarded as the needle was passed, and each thread being of sufficient length to form *two* sutures. The prepuce in front of the clip was then cut close off, the clip separated, the penis released, vessels twisted, the threads fished up with a blunt hook from the now enlarged preputial slit, cut and then tied on each side. The orifice in the inner or mucous layer of the prepuce can then be slit with scissors down to the corona, but this is unnecessary if the clip is put on so that the line of section runs in the direction from the corona to the orifice of the urethra.

The surface of the glans being anointed with vaseline, a plug of absorbent cotton dipped in a 1 to 20 solution of boro-glyceride made an excellent dressing, and was kept applied by a bandage passed round the abdomen, knotted behind, and the two ends brought forward between the legs over a piece of light macintosh or oiled silk, the bandage ends diverging so as to include the genitals, then converging and being looped through the bandage crossing the abdomen. The absorbent pad was changed every time that urine was passed. Healing took place by first intention, and not a trace of odour was detected from first to last. Carbolized catgut sutures would have been better than silk, as they do not need to be removed.

ARTICLE VII.—*A Curious Instance of Cadaveric Spasm.* By Dr F. OGSTON, Jun., Asst. Prof. Medical Jurisprudence, Aberdeen University.

ON the afternoon of the 30th of January a man was seen to issue from a privy situated in a stable yard in Aberdeen, and to commence the ascent of a ladder which gave admittance to a hay-loft. He had only ascended two or three of the steps of the ladder, when an hostler who was standing near observed that he stopped, and heard him moaning. The hostler spoke, and asked him what was the matter, but receiving no reply, went up and laid his hand on him. He now perceived that something was wrong, and went and brought two others to his aid. They found that he was dead. The hostler described the occurrence in these words: "He had his feet on the rungs of the ladder, and was *holding on*, with both hands rather above his head. He made no sound after I took hold of him. I had to unclose his hands to get him off the ladder, and I think he was dead, as he gave no sign of life. His hands fell down, and he was limp when I unloosed his hold of the ladder."

This account is also confirmed by the two other men who assisted to remove his body from the ladder.

Unfortunately, no post-mortem examination was allowed, and the cause of this very sudden death is unknown.

The man was known to be a dissipated character, about 42 years of age, with no fixed residence and no particular means of livelihood, living about the stable yard, and trusting to the chance of earning a meal by doing any work which might turn up. He was consequently ill nourished and poorly clad.

In such cases we generally find pneumonia, or pulmonary apoplexy,—an exaggerated first stage of that disease,—on post-mortem examination, causing an engorgement of the heart, leading to sudden death, and probably the case may be explained in this way.

Such cases are not very uncommon, but they are always interesting and deserve to be put on record.

ARTICLE VIII.—*On the Treatment of Leprosy.* By Surgeon-Major C. T. PETERS, M.B.

So early as 1871, when stationed in Belgaum, I was requested by the staff-surgeon, Surgeon-Major C. J. Sylvester, M.D., to look after the lepers in the Roman Catholic Asylum. There were at that time about eight or ten men in the Home, and about half as many women in an adjoining hut.

The people were very sceptical as to their ever being cured, or even relieved, of such a dreadful malady as leprosy, for which they have been cast out by friends and society, and made dependent on charity for their daily bread. One of them, however, a Goanese, in whom the disease had only existed for a couple of years, was selected for treatment. He was made to attend at the Civil Hospital daily, where he had a bath at about 9 A.M. with soap and warm water, which was followed by an inunction of carbolic oil (1 in 20 parts), and the open sores dressed with somewhat stronger carbolic oil (1 in 10 parts). Internally he was treated with chaulmogra oil (5-minim doses), and occasionally with iodide of potassium. After having assiduously taken these remedies for about six months, he fully recovered the sensibility in the extremities, the sores healed, and in every other respect he felt so well that he left the Asylum to join his relatives in Goa, with a feeling of deep gratitude.[1]

The others in the Asylum had not so much confidence, and it was very difficult to get them to attend regularly.

On my being transferred to Poona in 1873 I undertook the charge of a leper, whom I commenced to treat in the same way. He was improving slowly, when details of treatment by Dr Dougall with gurjon oil reached me.

Having brought with me a small quantity of this balsam from Bengal, where it is ordinarily used in the treatment of certain forms of skin diseases, I at once tried the application of the balsam unmixed with any other ingredient, with the happy result of closing the deep ulcers which had been festering for months; but as I had to leave the station soon, I lost sight of the patient.

In Muscat, in Arabia, where there are a number of lepers residing outside the city wall and close to the necropolis of the city, I made an attempt, but failed in persuading them to come for treatment. One patient, however, who was admitted by Dr Jayaker, left the hospital greatly relieved. Another, a fisherman, who came from a distance, attended for a couple of days as an out-door patient, and then absented himself. The disease was in the incipient stage, having commenced in a finger which he had accidentally cut with a knife that had been used in cutting a large fish which was caught while out at sea.

On my return to Belgaum, therefore, I gladly accepted the offer to treat the lepers in the Asylum; and they were under my care from July 1876 to November 1878, when I left Belgaum with my regiment.

1. *Number of Cases treated, and Sex.*—Male Asylum, 11 cases; Female Asylum, 9 cases; total, 20 cases.

Besides these there were under my treatment others, viz., 4 males and 2 females from the adjoining villages, making a total of 18 males, 11 females; total, 29.

Some of them absented themselves after the famine set in, while fresh cases were admitted into the Asylum; but their residence not having been sufficiently long to justify any comment being made on their cases, they are not included.

	Males.	Females.	Total.
2. *Age.*—Under 14 or 15 years, .	1	2	3
Under 25 years, . .	3	1	4
Between 25 and 45 years, .	14	8	22
Total,	18	11	29

3. *Caste and Social Position.*—Of the total number of cases treated, including those from the neighbouring villages, there were

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[1] Six years later (in 1877) this man returned to the Asylum with aggravated symptoms of leprosy, said to have recurred since the famine in the southern Maratha country and adjacent districts set in.

—Brahmins, 2; Jain (Buddhist), 1; Mussulman, 1; low caste Hindus, 25. The Brahmins and the Jain were in very good circumstances of life, the latter being a grain merchant, while the two former were employed as agents or clerks. The Mussulman woman was a dancing girl. Of the rest, 1 was a tobacconist, 1 formerly a policeman, 1 formerly a soldier, and the rest agriculturists.

4. *History and Causes as regards Diet, Marriage, etc.*—In many of them there was leprosy in the family, such as father and son were leprous, brother and sister in another instance. A few of the patients attributed it to marriage with leprous subjects, whilst in a few of the cases there was either a reluctance to acknowledge that the disease was hereditary, or else no cause could be assigned, the disease appearing *de novo* after a general failure of health, or accidental injury to the extremities while cutting something or walking along a rough gravelly ground, and the wound thus caused becoming the seat of the disease.

The disease, as is generally attributed, was not traceable to the consumption of fish,—fish being not easily procurable in Belgaum,—while in the three high caste Hindu patients it was entirely out of the question, as they *never* eat fish. No particular kind of diet, in fact, can be said to give rise to this disease. It would appear, however, that the use of unwholesome grain, just as much as the use of decayed fish, may give rise to leprosy. It is customary to store away grain for two or three years in granaries, generally made with bamboo and mud walls, with a grass roof, where the grain is liable to get damp and mouldy if the damp finds its way either through the floor or walls, or else by the rain-water finding access through the roof. This sort of damaged grain is sold at a cheaper rate, and its consumption would be as injurious as that of decayed fish.

Syphilis was associated with some of the cases. Some of the patients had syphilis before the symptoms of leprosy were developed. Several of the patients suffered from both the tubercular and anæsthetic forms of leprosy at the same time.

5. *Symptoms not generally described in Books.*—The patients generally complained of dyspepsia, attended with a burning sensation in the præcordial region, voracious or capricious appetite, which is not easily satisfied, and want of sleep at night. There is also general malaise, pains and aches in the joints and different parts of the body, resembling chronic rheumatism, attended with feverishness; and among those who were very much debilitated, diarrhœa and dysentery prevailed. In some advanced cases lung complications attended with high fever were present, probably due to tubercles (leprous) forming in the lung tissue and terminating fatally. In one case an attack of high fever was followed by the permanent development of brownish-black spots all over the trunk as far as the waist.

One patient, who had ulceration of the larynx, and whose voice was reduced to a whisper, suffered frequently from fits resembling spasmodic croup, which yielded to the administration of iodide of potassium in combination with ether and ammonia.

The amount of anæsthesia present in the fingers and toes rendered them liable to be burned with fire while cooking, or gnawn by rats at night, without their owners being aware of it at the time.

6. *Extent of Leprosy in the Belgaum Districts.*—I am indebted to G. M'Corkell, Esq., C.S., for the following statistics of leprosy in the Belgaum districts from the census of 1872:—

"In this collectorate the total number of those disabled by infirmity is 4131, or 0·44 per cent. of the entire population (938,750).

"The proportion of the male infirmities to female is 60·8 to 39·2.

"In the following table I have given the details of the infirmities. Of the total number of infirmities, 61·2 per cent. are either deaf and dumb or blind; 22·8 per cent. are afflicted with one or other type of leprosy:—

Infirmity.	Males.	Females.	Total.
Insane, . . .	233	107	340
Idiots, . . .	135	60	195
Deaf and Dumb, .	608	408	1016
Blind, . . .	803	703	1506
White Lepers, . .	369	114	483
Black Lepers, . .	232	228	460
Eunuchs, . . .	131	...	131

TREATMENT.

My plan of treatment has been, first, to make the patient rub carbolic acid and sweet oil (1 in 40), early in the morning for a couple of hours, all over the body, and then bathe at about 9 A.M. with soap and warm water; afterwards to rub in an emulsion of gurjon oil made according to Dr Dougall's formula (viz., gurjon oil 1 part, lime-water 3 parts, churned well together so as to form a thin ointment of a creamy consistence) over the affected parts, and fill in the ulcerations with cotton-wool smeared with the emulsion.

The ulcers healed rapidly, even such as had remained open for several years, but the anæsthetic parts and tubercles remained much the same; and except in one or two instances, where it was alleged by the patients that the tubercles were softening, I noticed no change in them. This induced me to try the cashew-nut oil, which has been so successful in the hands of Dr Beauperthuy. The result of my trial was so satisfactory, that some of the oldest patients, who had no hope of being ever relieved in the slightest degree, took to it kindly in spite of the pain and discomfort arising from the blisters which the application of the oil over extensive surfaces gave rise to; and on seeing that they were benefited, they sent for their friends not in the Asylum and placed them under treatment.

Briefly, then, I have used *externally*:—

1. As a general application, carbolated oil (1 in 40) rubbed over the whole body, to promote healthy action of the skin, followed by soap and warm water ablution.

2. For ulcerated parts, an emulsion of gurjon oil and lime-water (1 in 3), applied by means of cotton-wool and bandages as well as by friction.

3. For anæsthetic parts and tubercular growths, the application of cashew-nut oil.

Internally, chaulmogra oil in 5-minim doses, in combination with bicarbonate of soda 5 grains and peppermint-water 1 fluid ounce.

I shall now briefly consider the remedies used.

I. GURJON OIL (*Balsam. Dipterocarpi*).—For a time I used this both externally and internally, as recommended by Dr Dougall; but I was obliged to give up its internal administration in consequence of its ill effects upon the digestive system. In some cases it aggravated the symptoms of indigestion, which I find is invariably present in leprous subjects, whilst in others it gave rise to diarrhœa, and I did not consider it desirable to weaken the strength of the patients by continuing its administration when we have a much better remedy in chaulmogra oil, especially as the weaker patients were liable to attacks of diarrhœa and dysentery.

As an *external* application, however, gurjon oil is very valuable in the treatment of chronic leprous ulcers, which heal rapidly under its action, and I do not remember seeing in any single instance the cicatrices open out when it has been discontinued, although fresh ulcers may break out in other parts of the limbs, which are similarly healed under its use; and as a proof of its efficacy, it may be stated that the patients always asked for more of this emulsion than the quantity they were allowed.

This emulsion also keeps the skin in a soft condition, and prevents cracking, which is often the commencement of an inveterate ulcer. It has, moreover, the advantage of keeping away flies, which infest leprous patients, and, in the absence of cleanliness, give rise to maggots, which burrow underneath the skin, and thus increase the extent of the ulcers; but, under its use, the lepers as well as their rooms presented a very cleanly appearance.

Not only in leprosy, but in chronic skin diseases, such as psoriasis and the Burmese ringworm, gurjon oil seems to be a very valuable remedy applied in the form of an emulsion with lime-water, to which a small quantity of sulphur may be added. I may here mention that in Lower Bengal gurjon oil has been used in the treatment of ringworm, which affects the waist and groins, sometimes spreading rapidly like a girdle round the loins. It is applied in the shape of an ointment made with sulphur, to which sometimes a minute quantity of yellow arsenic is added. The application is very successful; the first or the second application often proves sufficient to destroy the parasitic fungus.

Gurjon oil is, besides, a cheap article of commerce. The advantages of gurjon oil, then, are the following:—

1. Its rapidly healing action in chronic leprous ulcers.
2. It softens the skin, and preserves the newly-formed cicatrices from cracking.
3. It prevents the collection of flies.
4. Its efficacy in the treatment of chronic skin diseases.
5. Its cheapness.

II. CASHEW-NUT OIL (*Ol. Anacardii*).—In this acrid oil, which is prepared from the pericarp of the fruit of the *Anacardium occidentale*, we have a potent remedy for the dispersion of tubercles. I was induced to try this as gurjon oil did not give any satisfactory results in this respect. The cashew-nut oil is applied daily over the tubercles until blisters are formed, when it is discontinued. This causes the tubercles to soften and disappear, discharging in some cases an ichorous matter, and leaving an open ulcer. To the ulcerated surface thus formed the gurjon oil emulsion is applied, under which it cicatrizes rapidly.

The application of the cashew-nut oil has to be repeated again when the skin has healed until complete absorption of the tubercle has taken place. Care should be taken not to let it run over the healthy skin or into the eyes.

The cashew-nut oil appears to be beneficial, also, in the anæsthetic form, applied in a similar way over the surface covered with the anæsthetic patches.

III. CHAULMOGRA OIL (*Ol. Gynocardiæ*).—I find this oil, which is expressed from the seeds of the *Gynocardia odorata*, most useful as an internal remedy. It acts as an alterative and stimulant tonic. Given in combination with carbonate of soda and peppermint-water, it relieves in the first instance the distressing burning sensation in the stomach arising from dyspepsia, and the constant morbid craving for food which lepers generally complain of; at the same time it improves the appetite and promotes digestion, and thus leads to the healthy assimilation of food. Some of the patients who have been in the habit of taking alcoholic stimulants have asserted that they experienced a similar effect from its use; and for these reasons, combined with its not unpleasant taste, they preferred it to gurjon oil. Chaulmogra oil, moreover, has been found to have a direct influence in causing absorption of the tubercles, as seen in cases where cashew-nut oil had not been applied, and, therefore, particularly adapted in the treatment of leprosy. It appears to maintain its reputation since it was first tried by Dr Mouat in Bengal.

IV. CARBOLIC OIL.—I have used carbolic acid in combination with sweet oil made from ground nuts (*Arachis hypogœa*), sesamum seeds (*Sesamum orientale*), and the seeds of the *Verbesina sativa*, or cocoa-nut oil, in the proportion of 1 part of the acid to 20 or 40 parts of the oil, as a general application to promote healthy action of the skin, and also as a substitute for gurjon oil when I have not had a supply of the latter; but it is more expensive and less efficacious than gurjon oil in healing leprous ulcers.

V. IODIDE OF POTASSIUM.—I have used this drug with advantage, especially in those cases which were associated with a syphilitic taint; and I believe it promotes the absorption of the newly-formed exudation which caused the tubercles.

DIET.

The patients in the Asylum received rice and dál (pulse) as their principal meal; mutton once a week, and occasionally fresh fish. Potatoes and some of the ordinary country beans and vegetables were also allowed, which they cultivated themselves in the Asylum grounds; but brinjals (*Solanum Melonghana*) and pumpkins, as well as salt fish or meat, were entirely forbidden.

During the famine of 1876–78 the quality of food was very inferior, as good grain was not procurable in the bazaar excepting at very high prices, which would have required greater funds than were available, as the Asylum was kept up by private contributions raised in the place; and owing to the deterioration in the quality of food, several of the inmates suffered from an aggravation of the symptoms during the famine months.

CONCLUDING REMARKS.

After what has been already described, it will appear that although gurjon oil has no specific curative effect on leprosy, it does certainly ameliorate the condition of the poor lepers, combined with the other remedies detailed above; but in order that they should receive the full benefit of medical treatment, it is highly desirable that some central asylums should be opened by Government, where the patients could be brought more fully under medical supervision, where proper sanitary rules could be enforced, and a generous and nutritious diet allowed.

Judging from Mr M'Corkell's figures, there were no less than 1 per mille of population in the Belgaum districts alone who were afflicted with leprosy; and considering that it is a disease which is liable to be transmitted from father to son and propagated by marriage, it calls urgently for the adoption of such measures which will not only palliate if not entirely remove the sufferings of the afflicted, but in all probability prevent the spread of this loathsome disease.

I cannot do better than to close this paper with an extract from Dr Carter's valuable article on Leprosy, published in the *Transactions of the Medico-Physical Society of Bombay* for the year 1871:—

"On grounds, therefore, of humanity and of expediency does it appear that leper asylums should be, as they doubtless will speedily become, recognised institutions, adapted to meet a wholly special need of the country. . . . And that inauguration of a system, while novel though it be, is yet transparently adapted to the wants of the people, would, it is urged, be so directly appreciated that its bare proposal must call forth the approval of the enlightened press and native opinion, with the result, it might surely be anticipated, that local aid would be unanimously voted, every district being, for obvious reasons, required to bear its share of the burden, whether an asylum be located or not. The expense need not be considerable. With the aid of the present police and subordinate medical departments, no new agency be needed."

CASE I.—Alkoons Sarson, son of Deog; age about 40 years; has been nine years in the Leper's Home (in 1876). Ill twenty years; body covered with brownish-black patches, which are anæsthetic; fingers and toes contracted; the knee-joints and wrists more or less stiff; and has been a cripple for years.

The disease first commenced in discoloured patches (brownish-black with white centres) on the thigh. Some five years ago, while in the Asylum, he had a violent attack of fever, which subsided after a rash breaking out over the whole of his trunk. Has been under treatment for two months. The cashew-nut oil was applied along the knee-joints and the contracted fingers, and the ulcers healed with gurjon oil emulsion. He has been since able to walk better, and go over a mile to fetch his rations.

This man, who has been the oldest inmate of the Asylum, was a great sceptic, and would not take any medicines at first; but seeing that his comrades were finding relief, he took to treatment, and even went so far as to apply the cashew-nut oil all over the legs and thighs, not minding the blisters caused thereby. He then sent for his son, who was born a year before the disease first broke out in him, and was at this time suffering from anæsthetic patches, like his father, in different parts of the body, in order to place him under treatment. This man went on a visit to his friends to a distant village, and is reported to have died there from bowel-complaint during the famine.

CASE II.—Luxmun (*alias* Minguel), a native of Pundharpore, formerly a police sepoy, served ten years in the police, and had to leave the service on account of leprosy. While travelling in charge of prisoners to Dharwar, he is stated to have cut his foot by a stone in the Ghatprabha river. The wound festered, but did not show any alarming symptoms until four years after. Has got leprosy now for ten years, and in the Home for eight years (in 1876).

Nostrils affected (tubercles); tips of fingers and toes destroyed; no hair in the eyebrows, but that of the head and face good. Had three sores on the sole of right foot, and six on the left foot; of se, two on the left and one on the right have closed now under › use of gurjon oil; the largest and the oldest one is nearly led; a small ulcer, however, has recently appeared in the left t. Had tubercles along both the arms, which have disappeared ce he commenced the treatment. States that sensation has urned in the left foot, but that the right foot and both arms are ll more or less anæsthetic.

Case III.—Kaneeba (*alias* Antone), native of Gurdasgad, Padpore; agriculturist. Ill seven years; four years in the Home 1876). Cheeks, nostrils, eyebrows, ears, hands, and feet affected th tubercles. There is complete loss of sensation in the toes and gers; ulcers present on both the ankles.

Six months after treatment was commenced the sore in the left kle was nearly healed; that on the right ankle cicatrizing; ercles in the lobes of the ears very much less, and face improved appearance.

18*th October* 1877.—Old sores in the left foot perfectly healed. ght foot still subject to sores.

Case IV.—Isram Purab (*alias* Paul) served in H.M. 4th Rifles, I., for 13$\frac{10}{12}$ years. Was discharged from the service in 1862 in sequence of leprosy, and went to live in his native village in wuntwaree till two years ago, when he came to the Lepers' Home. s three ulcers on the right foot and one on the left; one in left hand; fingers of the right hand contracted, of the left hand rtially so; all the toes are contracted; unable to walk on account stiffness of the knee-joints. Has been applying the cashew-nut to the joints, and the gurjon oil emulsion over the sores, and n now walk great distances. All the sores but one have comtely healed. The one remaining open appears to be connected th a piece of diseased bone in the dorsum of the foot.

Case V.—Yellappa (*alias* Louis), native of Kolgaum, Kolhapur trict, agriculturist. Right leg was first affected. There are æsthetic patches scattered all over the body. Tips of three gers of the left hand ulcerated and contracted. Little finger of right hand contracted. Tips of the toes also more or less erated. Ankle-joints stiff, to which cashew-nut oil has been plied. There was a sore over the left thigh for nearly a year. rjon oil emulsion was applied, and it has closed since. Feels tter generally.

N.B.—This man died in September 1877, during the famine, it stated, from the effects of chronic diarrhœa.

Case VI.—Poonaji (*alias* Marcus), agriculturist; native of lgaum; four years in the Home. Ill seven years. Disease t appeared in the calf of right leg. Left eye destroyed by the wth of tubercles two years ago. There are tubercles on the ehead and cheeks; fingers swollen; legs swollen and ulcerated.

The large ulcer in the calf of the right leg healed under the use of gurjon oil, but fresh ulcers broke out on the feet; and the patient died of diarrhœa during the famine, in July or August 1877.

CASE VII.—Lingappa (*alias* Francis), aged about 25 years; resident of the Shapore Taluka; agriculturist. Ill four years. Has been one year and three months in the Asylum. The disease first commenced in the right foot, then the face, the left foot, and recently in the hands. Fingers and toes are covered with a scaly eruption; lobes of the ears, nostrils, and forehead dotted with tubercles. No hair on the face; on the eyebrows slight.

Six months after treatment with gurjon oil, fingers of the left hand looked almost free from the scaly eruption. Lobes of the ears less swollen. Can feel the sensation of heat and cold. Right hand and both feet much the same as before.

Later on the scaly eruptions reappeared, during the time when good food was not procurable in consequence of the famine; but towards the end of 1877 the condition of his fingers had improved, and they were nearly free from the scaly eruptions.

CASE VIII.—Purusram (*alias* Bastian); born near Jamboti; agriculturist; age about 25 years. Ill eight years. Two years in the Home. Father's father suffered from leprosy. Left foot, right hand, left hand, and right foot became successively affected, which are ulcerated.

Six months after the use of the gurjon oil emulsion some of the sores of the feet had healed. Another was healing, but a finger in each hand was ulcerated, and two phalanges were exposed for a month. These came away eventually, and the ulcer closed.

14th October 1877.—Has been laid up for nearly two months and a half with an extensive gangrenous ulceration of the left forearm, from whence a large sphacelus has been removed. During this time the patient was getting very low, and his strength had to be kept up with stimulants, while the ulcer was dressed with gurjon oil emulsion. The patient is now well, and able to use his arm. A deep cicatrix now marks the spot.

23rd November 1877.—Has walked over himself to my house (about a mile). No more sores in the feet. Hands and arms quite free from sores.

CASE IX.—Bhicaji (*alias* Manoel); served as a sepoy under a native chief in the Kolhapur States, and subsequently as a mallee (gardener) till five years ago; has been one year in the Home; age about 35 years.

Disease first commenced with a swelling on the face; and when his hands and feet were affected, he was so stiff in the joints that for three years he had to be moved about by others. Then ulcers broke out in the left foot, and in the course of a year the ungual phalanx of the big toe came away. Some of the sores healed up spontaneously in the course of a year; cicatrices now mark the spots. There is loss of sensation in hands and feet. Has got a large ulcer in the sole of the foot. There are tubercles in the cheeks, nose, and ears.

After six months' treatment the sores were healing up; some of the tubercles had disappeared, and others disappearing, under the use of cashew-nut oil. Sensation, though not perfect, has returned. Was unable to walk more than half a mile at one time; can now walk more without difficulty. Often used to tumble down from want of sensation in the soles of the feet; but he does not feel so now, and can tread firmly on the ground.

In October 1877 the notes of this case show that he could not walk so well again, and had fresh sores in the legs. This was during the height of the famine season, but he improved again subsequently.

Case X.—Krishnee (*alias* Georgina); native of Shapore. Ill ten years; in the Female Asylum four years; age about thirty years. Father had leprosy; died four years ago. Has been using the leaves of the bitter neem (*Melia Azadirachta*), both internally and externally, to improve her condition. Some five or six years ago lost all her fingers; some were eaten by rats.

N.B.—The patients frequently complain of rats gnawing their fingers and toes at night. The bite is not felt, owing to the numbness of the parts; but they are seen bleeding in the morning, when they are attended to.

There is loss of sensation at the extremities, and a sore at the sole of the right foot. The sore very nearly healed during treatment, and sensibility had returned at the extremities to such an extent as to enable her to feel the pain if anything like gravel got into the sore of her foot while walking.

Case XI.—Gunga (*alias* Miriam); native of Belgaum. Has been in the Female Asylum five or six years, about which time she became affected with leprosy, shortly after her marriage. Child died three days after birth. Face and hands slightly affected; but the legs have chronic ulcers, one in particular over the shin, which she says has been in existence for several years.

This was a particularly interesting case, inasmuch as all the sores healed under the use of gurjon oil, including the old ulcer over the shin; and up to the time I was in Belgaum (November 1878) no fresh ulcers had formed.

The next two cases to be presently described were men in good circumstances of life, and who were still living amongst their caste people and following their ordinary vocations. One of them was a Brahman and the other a Jain. Both were vegetarians, being precluded by their caste prejudices from eating flesh or any other kind of animal food.

Case XII.—Ganpatrao, Brahman; age about 40 years; native of Shapore; profession, furnawis (clerk). Ill two years. Had a small tubercle on the back of right elbow, then over the left foot, next on the left hand, extending from these points gradually all over the body. Face, nostrils, arms and hands, legs and feet, are all covered with tubercles, resembling those of fibroma molluscum, the largest being about the size of a walnut. Ears not affected.

The first tubercle in the elbow softened and began to secrete an ichorous discharge, and subsequently closed under treatment with gurjon oil. Some of the other tubercles have completely disappeared, while others were disappearing, the changes occurring in them precisely in the same way as in the first, viz., 1st, softening; 2nd, ulceration; 3rd, discharge of an ichorous substance; 4th, cicatrization, whilst those that had already healed up did not ulcerate again. The tubercles, before softening, were treated with repeated applications of cashew-nut oil.

CASE XIII.—Davindrappa; Jain; resident of Belgaum; a corn merchant; age about 40 years. Suffered four years ago from a cutaneous eruption, succeeded by tubercles appearing in patches all over the body in the course of two years, also on the tip of the nose and lobes of the ears. There is swelling of the fingers and toes, which gives them a peculiar glossy appearance.

Where the cashew-nut oil was applied, the patches of tubercles have ulcerated and the irritation of the skin has disappeared. Lobes of the ears softer than before. Hands and feet much the same as before. The ulcers are healing under the use of gurjon oil.

Was subject to a feeling of burning sensation in the stomach, which was only soothed by taking some food. Since he has been taking the chaulmogra oil mixture he has not suffered from these gastric symptoms.

This patient, on being somewhat relieved, absented himself in consequence of his work having increased during the famine in connexion with his trade as a grain dealer.

The next two cases were more or less associated with a syphilitic taint.

CASE XIV.—Sultana, Mussulmanee; age about 35 years; dancing girl; resident of Belgaum. Suffering for eight years. Lives with her friends. Had a swelling of the face; was treated with some mercurial preparations on two occasions (evidently for syphilis), which increased the swelling of the face, and the extremities also became affected.

There are tubercles in the lobes of the ears, eyebrows, cheeks, and legs, and anæsthetic patches in the forearms and legs. Appetite impaired, accompanied with a burning sensation in the præcordial region, also in the eyes and extremities.

The patient was under treatment for about six months, when she began to feel her appetite improving, the burning sensation becoming less, and the tubercles in the ears getting smaller, when she discontinued her attendance.

CASE XV.—Jairam Subrao; Hindoo; tobacconist and betel-leaf seller; age about 25 years; resident of Belgaum. Ill about four years. Father's mother had leprosy. Sister also leprous, and now in the Female Asylum. Had syphilis. Tubercles on the cheeks and lobes of ears, and glans penis. Hands and feet anæsthetic. Commenced with a papular eruption over the hands and feet, then the face. Treated himself with lemon oil and khapila powder (powdered nux vomica) without avail.

N.B.—Nux vomica seeds (powdered) are given with lemon juice in dyspepsia—*vide* U. C. Dutt's *Hindu Materia Medica*, p. 199—to promote the appetite and increase the digestive power.

The tubercles appeared subsequently. The skin of both legs is now (November 1876) covered with a scaly eruption, and the extremities are numb.

Under treatment the skin assumed a healthy appearance. The tubercles remained much the same. He did not attend very regularly.

ARTICLE IX.—*Surgical Experiences in the Zulu and Transvaal Wars*, 1879 *and* 1881. By D. BLAIR BROWN, F.R.C.S. Edin., Army Medical Department.

INTRODUCTION.

IN South Africa our army certainly found foemen worthy of its steel. Though the same amount of glory has not been attributed to the work done there as in some other wars, still the practical experience gained by every branch of the service is such that, systems thought complete having been found wanting, the whole military fabric has undergone revision of an almost revolutionary nature.

Into these changes it is not now my purpose to enter. I shall keep solely to the surgery of the two wars.

Late in 1878 I sailed for Natal in medical charge of the head-quarter companies of the 99th regiment. War was not proclaimed against the Zulus, but it was thought that the Government would soon do so. By the date of our arrival in Durban war was certain, and our troops were marching on to the Zulu frontier. On disembarking, a telegram was waiting me from the Surgeon-General, directing that I was to proceed at once by post-cart to join the head-quarter column. Several days' continuous rain brought the roads into so soft a condition as to prevent any such vehicle proceeding. The railway then only went as far as Pine Town—10 miles—and I had over 150 to travel. But for this, as events turned out, I should have been in the camp of Isandhlwana on the day of the disaster that happened there. I got to Helpmakaar o the morning of the 21st January 1879, and on the 22nd I accompanied three companies of infantry—chiefly 24th regiment—o their way to join the main body. As we neared Rorke's Drift w were met by fugitives who had escaped from the camp of Isandl wana, who told us the terrible story of its capture. We thereup returned to Helpmakaar and formed a fort, which was occup until troops from England arrived as reinforcements. The gall defence of Rorke's Drift was about to commence when we w er turning on the road to go back: had we arrived a little earlier, we should have been sharers in the action. As it was, we wearily toiled up the hill, saw the flames bursting from the buildings, and reached our camp by midnight. In four days afterwards the wounded from Rorke's Drift arrived at Helpmakaar, so that I had the treatment of them. Contracting the prevailing fever of the place, I was sent to Ladismith. There I afterwards organized and administered the base hospital.

When the new divisions were formed on the arrival of the reinforcements, I was appointed to the medical charge of the staff and departments of the 2nd division under the command of Major-General Newdigate, C.B., and of which Brigade-Surgeon Semple was principal medical officer. In this position I had considerable work to do for both my military and medical chiefs. There were few arrangements made connected with the medical organization in the field, and no case of surgical interest occurred that did not come under my notice or care. During the advance on Ulundi I saw all the killed and wounded, the result of the various skirmishes; and being in the centre of the square formed by our troops during the decisive battle, nearly every case, I may say, passed under my observation. I remained in Zululand several months, and saw numerous Zulus who had been wounded by our men.

After returning to England in February 1880, I again received orders in December 1880 to proceed to South Africa. The Boers of the Transvaal had revolted, and the 94th regiment had been roughly handled at Brunker's Spruit. I went out amongst the first of the reinforcements from England with the Inniskilling Dragoons, with whom I proceeded, on arrival in Natal, up country as far as Newcastle, on the Transvaal border. Here orders awaited me to the effect that I must leave the regimental duty and be one of the surgeons on the staff of the large hospital there, to which all the wounded had been and were being removed from the front—Lang's Neck, the Majuba Mountain, and the Ingogo battle-fields being but a few miles off.

I shall never forget my first visit into the wards. An opportunity to test my surgical skill on a fair scale, which I had longed for during my military career, was now presented to me.

The following pages may therefore be taken as a summary of two years' surgical experience in the field.

To avoid repetition when detailing the cases, the dates of the various engagements in which the men received their injuries is here given:—

Isandhlwana and Rorke's Drift,	22nd January 1879.
Ulundi,	5th July 1879.
Brunker's Spruit,	20th December 1880.
Lang's Neck,	28th January 1881.
The Ingogo,	18th February 1881.
Majuba Hill,	27th February 1881.

NATURE OF THE WEAPONS AND BALLS USED BY THE ZULUS AND BOERS.

Bravery is a very different thing in the present day to what it was in time of hand-spikes and bows and arrows. The Zulu's real weapon is the assegai, a species of instrument holding a position midway between those just mentioned, and is of two sorts, one a short-handled, broad-bladed instrument used for close encounter, and which is never parted with, and the other long-handled and small-bladed, beautifully balanced for throwing in the manner of a dart. The guns possessed by the Zulus were chiefly our old pattern ones, with the Tower mark upon them of 1847 and about that date. After the disasters they became possessed of immense numbers of our modern rifles and ammunition. However, with very few exceptions, they were unacquainted with their use. In many instances Martini-Henry bullets were found in the cow-hide pouches around their waists, cut in two and separated from their usual cartridge combinations, the powder being doubtless mixed with other in their cow-horns which served as their powder-flasks and hung by their sides. The majority of their bullets consisted of spherical masses of lead, generally hammered into form and not moulded. Others were very roughly shaped and had a rough prominence on them, while a few were very carefully made. The latter were generally surrounded by a piece of thin cloth sewn accurately on them. Between this and the bullet a powder of an herb supposed to be poisonous was placed. These were "doctored" bullets which the witch doctors had given them as being certainly fatal. From their fairly round and smooth form they were much more likely to do mischief than the other less carefully made ones. For these reasons, in our wounded we found the most varied appearances, courses, and effects produced. Except when the injury was produced by a Martini-Henry ball, as unfortunately took place in some of the cases herein recorded, the experiences gained of the nature of the injuries agree with those detailed in the books of old military surgeons of years gone by. The most extraordinary of courses were taken, and the most trifling obstruction often caused what might have been a very serious injury to become a simple one; and, above all, the very large number of bullets lodged sometimes very superficially, and in not a few cases, after penetrating the skin, being stopped by the first bony obstruction, caused not the least damage thereto, and fell out on the garment being taken off for the purpose of examining the wound. All this proved that in the vast majority of cases the bullets were fired at considerable ranges from smooth-bore guns, charged with anything but large amounts of powder.

With the Boers we had quite a different sort of enemy and weapons to deal with. Trained from their earliest age to stalk deer and bring them down when in full retreat, naturally the very best rifles procurable were in their possession. For the first time in history the British army was placed opposite a white race armed with weapons of modern scientific accuracy and firing cylindro-conoidal balls, and therefore for the first time were our men wounded in the manner in which they themselves are now wont to wound. The revolt commenced by the Boers using their own weapons—Westley Richard's, Express, and even Repeaters. A considerable number of Martini-Henry's had reached them through Zululand, which had been obtained after some of our defeats there in the previous year. As the war went on, and calamities succeeded one another, they of course were able to put into the hands of even their boys Martini-Henry rifles, and they knew how to use them, too. When our troops met with disaster in the Zulu war, it meant total annihilation of all unable to escape on horseback. In the Boer revolt, so far as the wounded were concerned, it was the same as if the action had been successful, or nearly so. Let it be freely acknowledged that, as far as I knew, there is no well-substantiated case of cruelty to the wounded by the Boers. Every opportunity was given, as soon as the "affairs" were over, for the attendance of surgeons and for the removal of the wounded. It has been stated that explosive bullets were used. From what I saw of the wounded I had no evidence of such a thing. The following case was reported to me as a probable one, but a simpler explanation might have been arrived at.

No. 2353, Private W. F., of the 58th regiment, having previously been wounded, was one of those lying around Dr Landon on the Majuba Hill. One bullet had hit the axillary border of the latissimus muscle, penetrating it, and, running beneath the scapula, made its exit at the apex of the shoulder-blade. A second struck the right elbow near the inner condyle, furrowed the skin in an oblique direction, and passed off. A third hit him as he lay as above described. The patient states that, the fire being so severe, Dr Landon ordered them all to lie down. While so doing, "a bullet hit the doctor in the chest." "Another hit the patient over the sacrum." The wound, when I saw it, extended from the middle of the sacrum towards the left, along the iliac ridge. It measured eight inches in length, and was one inch and a quarter wide and quarter of an inch deep. At first sight it looked quite unlike a gunshot wound produced from an ordinary bullet. It was, however, just such a one as would be produced by a partially spent cylindrical bullet hitting in its long axis, and this, I doubt not, was what had taken place. Skin-grafting was practised by me, and in less than a month he was quite well.

MULTIPLE WOUNDS OF ONE INDIVIDUAL.

Being hit by a modern bullet does not always mean anything serious. The following cases, along with the one just quoted, will show that even a number of bullets may penetrate one's frame and do little harm. At Brunker's Spruit the men were quietly marching along the ordinary open road when they were suddenly stopped. They had no cover, except a few who got behind their cart-wheels and dead oxen. Owing to this, and from having exactly calculated the range, the Boers scarcely wasted a bullet. In the case of one man there were no less than six distinct bullet penetrations of muscular tissues, which were all slight and healed rapidly. Private W. H., of the 94th regiment, was hit in three places at Brunker's Spruit. The first bullet entered the upper lip on the left side, making a furrow, smashing the teeth, passing under the tongue, and lodging near the inner side of the right ramus of jaw. The second struck at the sterno-clavicular articulation, slightly injuring the end of the clavicle, and made its escape two inches below the posterior fold of the axilla. The third entered at the inner side of the deltoid insertion to the humerus, running down the shaft and escaping near the insertion of the biceps in the forearm. All the wounds healed, but he speaks a little thickly, as if tongue-tied.

Private T. G., of the 3rd 60th Rifles, was hit at the Ingogo in three places—first in the right arm, the bullet entering two inches above elbow-joint anteriorly at the outer margin of the biceps tendon, running upwards and inwards, making its exit in the middle of the arm, near the brachial vessels. Numbness of the thumb and slight atrophy of the hand remains. The second bullet entered the leg at the inner side of the gastrocnemius tendon, and made its exit one inch above and a little anteriorly to the outer malleolus; no evidence of injury to the bone. The third bullet entered the right thigh, half an inch to outer side of femoral vessels in Scarpa's triangle, and made its exit at lower fold of the gluteal muscle posteriorly; no injury to the bone.

ASSEGAI WOUNDS.

In nearly every instance in which our men were taken by surprise by the Zulus, death was the result of assegai wounds. It was only very rarely that any of our men escaped on occasions when the Zulus could use their favourite weapon. The following cases came under my observation:—

Mr W. B. E., an officer in the Natal Native Contingent, was escaping on horseback from the camp of Isandhlwana when an assegai hit him in the back of the thigh, "pinning him to the saddle." When galloping on he withdrew the weapon, and was seen next day by me at Helpmakaar. The wound presented the appearance of a simple wound made by a bladed instrument, did not injure any important part, and required nothing but a bandage to effect a cure.

Another case was that of Lieut. J. of the Scots Greys, who was hit by an assegai as he was furiously taking part in the charge at Ulundi. The assegai hit him on the sternum; and though he, with characteristic British pluck, thought it a trifle, it afterwards suppurated and was some little time in healing.

The next case is a very interesting one. Private J. H. M., of the 1st Battalion 3rd regiment Native Contingent, was present on the 12th of January 1879 at the attack on Sirayo Kraal, the first encounter between our troops and the Zulus. Several prisoners were taken and were being disarmed, when one of them, being irritated by our friendly Kaffirs, tried to force his escape, and, assegai in hand, stabbed right and left at every one. This patient was one thus injured. A bandage was applied, and he was conveyed to Rorke's Drift for treatment. While there several outbursts of severe hæmorrhage occurred from the wound, and, though the bleeding points were searched for by all the surgeons at that camp, it could not be permanently stopped, breaking out again after a day or more, or whenever the local means of arrest were withdrawn. On the 26th of January he was sent to Helpmakaar, and I found a wound of a regular punctured nature in the lower end of the left ham, a little above the popliteal space. As there was no bleeding I simply ordered the limb to be kept as quiet as possible. Next day, however, hæmorrhage—which was found by two civil surgeons who attended to be almost impossible to control—took place. When I arrived he had fainted, and his pulse could only just be felt. No further bleeding took place for two days, when it burst forth again. Assisted by Surgeon M'Gann and others, the patient being put under chloroform, I enlarged the wound to look for the bleeding vessels. Having made the incisions, I found a large cavity filled with coagulated blood extending up the limb and amongst the muscles; compression over the femoral during this procedure was maintained. On relaxing this, after the clot was cleared out, numerous points of bleeding were seen, none of which could be seized for torsion or ligature. The patient was again almost pulseless and his face very pale. Raising the limb, prolonged digital and instrumental pressure all failing, it was agreed that ligature of the femoral was the only remedy left to us. I proceeded at once to do that. On reaching the sheath of the vessel the profunda was found to have a longer course than usual, and to be lying very close to the superficial femoral, both vessels being plainly felt pulsating. On applying pressure with the point of one finger on the profunda branch, I found not a drop of blood escaped at the wound after the withdrawal of the tourniquet from the groin. I therefore adopted the lesser operation, and tied the profunda. The wound healed rapidly, and after the first two days, when he complained of slight uneasiness in the limb, there was nothing else to note. On the 15th of February he left Helpmakaar for the base hospital. He afterwards returned to duty and joined "Buller's Horse," with which famous body he went through all the reconnaissances and battles, including Ulundi, without any inconvenience. This patient was one of those in the hospital at Rorke's Drift on the memorable 22nd of January, and managed, under fire, to hop out from one building to the other. He therefore had four marvellous escapes within a few days—first, that of the stab at Sirayo's Kraal; secondly, the escape under fire from the hospital at Rorke's Drift; thirdly, the frequent profuse hæmorrhages; and fourthly, the operation.

A case of accidental assegai wound came under my observation. When the 2nd division found its way back to the Upoko river, after the battle of Ulundi was over, athletic sports were held, one of the "events" being assegai-throwing. A great deal of interest, of course, was taken in this by all the members of the different regiments. The friendly Natal Zulus forming the Native Contingent regiment competed for the prizes. On one occasion an assegai was well, but wildly, thrown into the air, taking a high course, and descended with great rapidity amongst the ring of spectators, becoming transfixed in the upper portion of the calf of a soldier's leg. There was, of course, a sensational rush. When I got to him he had withdrawn the weapon himself, and it was found the popliteal artery had just escaped.

General Remarks on Gunshot Wounds.

In wounds produced by round balls, or conoidal balls fired from smooth-bored guns, as in the Zulu war, the invariable slough appeared, and generally began to separate by the end of the first week. The case, however, is different with the modern rifle-bullet. I have seen so many instances of the healing process take place without any aid, after complete perforation of a thigh or arm, that I look upon the fact of a slough occurring as unusual. The wound of entrance and exit, also, differs in the two bullet injuries, the wound of entry in cases of cylindro-conoidal ones being frequently like those of exit in size and shape, and it would as often take a microscopist to detect the eversion or inversion of their lips.

Again, in the way of healing, almost in whatever line a round bullet travels. the wound of exit is the first to heal. This is as often not the case as otherwise with regard to the conoidal bullet injuries. I therefore look upon the simple muscular injuries produced by modern bullets as much less severe, and consequently less apt to be followed by the incidental plagues which nearly always show themselves in military hospitals in the field, than the old round ones. I believe, also, the shock of a large round bullet, and the pain caused by its lodgment, to be a much more effective way of stopping the approach of an individual than a cylindro-conoidal bullet entering the same place, passing through at great velocity, and leaving a harmless little wound which heals by first intention, unaccompanied by any shock or pain, and which, I have even noticed, the individual never knew he possessed until attention was called to it.

When, however, a bone is injured, the great difference has to be considered. It is well known that a round bullet, in passing through a bone, is more local in its injurious properties than a conoidal one. When a shaft of a long bone is struck by a round bullet, long fissures and splitting up into fragments do not occur in the way they do when a conoidal one had hit a like bone. As regards the articular ends of the long bones, the difference is not so great between the effects of the bullets. The great question at present seems to be, admitting that a femur is so reduced into fragments by a conoidal bullet passing through it, is it necessary to amputate the thigh, or will the fragments reunite, the periosteum, of course, being upon them? Sitting quietly with pen and ink in one's room, it is easy to imagine such union possible. When one reflects on what takes place in a case of a gunshot-shattered thigh, how, under the most advantageous circumstances, prolonged suppuration and the constant soaking of these bony fragments in pus must take place, it is necessary to think how, under these circumstances, this periosteum is to be made serviceable? No; the line of practice of the future, I think, lies rather in the following direction:—Knowing the nature of a fracture of the femur from a conoidal bullet, the indication is, to cut freely down as early as possible after the injury, take away all the fragments lying loosely, leaving as much of the bone and periosteum as possible, then, making a suitable drain posteriorly, draw the limb together, put it up in some firm support, when a short, and, I doubt not, a fairly useful limb would be the result.

It scarcely requires me to follow out here the results of much of the "expectant" surgery it was my duty to witness, and afterwards form into what is generally called "conservative;" the cases speak for themselves. I cannot help pointing out, however, that in far the largest number of cases of gunshot injury, radical and immediate measures taken within the first few days after the receipt of the injury will very often suffice to save a limb or joint which is certainly doomed by the non-interference treatment. Free incisions down to the injury where there is comminution, and removal of every loose portion of bone or *débris*, will prevent any amount of irritative fever, prolonged suppuration, ostitis, and periostitis, and all the whole list of calamities which follows as certainly as day the night, if such is not done in the first instance.

Now, as regards the removal of bullets, it is generally thought, if firmly impacted in the heads of bone, for example, it is best to allow them to remain until they loosen and can be easily removed. I have seen the result of this treatment so often, and have always practised the opposite, that I have no doubt as to the latter being by far the safest course. In removing bullets, the first error which the surgeon who tries the operation for the first time commits is in making too small an incision through the tissues to get at them easily. A small wound, and tearing with the blunt forceps, causes a nasty suppurating sore, while a free incision and simply extraction movement given to the instrument will make a clean wound which heals at once. In the British surgical field-cases bullet-forceps, formed with large spoon-shaped blades and with a joint resembling those on midwifery forceps, are found. These after one trial I discarded; and as long as I have one of the American tooth-shaped instruments and a good strong lever, as supplied in the excellent "cavalry surgeon's field-cases," I shall not use any other. The needlessly large wound which is necessary to be made in order to use the "regulation" kind, the difficulty in getting the points of the blades round the further end of an impacted ball, render it a useless instrument. The small teeth of the American instrument, the narrow radius in which the blades open, the ease with which they reach any portion of the foreign mass, the security with which they hold the object, are all points of great consideration. It has been said that the danger consists in the fact that nerves, arteries, or other important structures have been seized and injured. This I cannot believe could occur except in the hands of one so manipulatively ignorant that any instrument would have its terror. In both wars there were numerous cases in which the discovery of the bullet was not always the easy matter it usually is. In no case did I find it necessary to use electricity, the porcelain-pointed probe generally clearing the doubt in such cases.

When a battle in which there have been a good number seriously wounded has taken place, it becomes a serious question as to the necessary treatment to be adopted—what cases should be treated by the "expectant," "conservative," or "operative" methods. Here, indeed, the whole specialty of army surgery comes in. Any one can lop off a leg or arm: the schools teem with second year's students who can do this; but the thing which ought to distinguish the "army" from the "ordinary" surgeon is the knowledge of what injuries should be treated according to either of the above plans. To the patient, and to the surgeon unacquainted with gunshot injuries, often the wounds externally look so trivial and the symptoms for some weeks so slight, that opinions are formed and sometimes expressed quite contrary to what the results finally show to be right. It is a very distressing thing to require to tell a poor wounded fellow, after suffering weeks of prolonged torture, that he must lose a joint or limb, after being assured it would most likely be saved. Such a thing must occasionally happen, yet with a little care these cases might almost always be avoided.

It was my fortune to visit the hospitals in Germany at the time of the triumphal entry, just after the Franco-German war. Again shortly after peace was proclaimed between Russia and Turkey, I visited the former country. On both occasions I saw numerous operations of a more or less severe description, the result of the "expectant" surgery in cases unsuited for such treatment. Wounds through joints and bones, at first quite local, had become, by the processes so well known to surgeons, very extensive, and sacrifices had to be made in cases where earlier and less severe operative measures would have sufficed. To save as much as possible is the object of every surgeon, but not at the expense of life. When I recall the cases in which the attempt was made, and is even now made, to save joints and limbs in the wars I served through, the more I feel that operative interference is far too little adopted. Now, though I say I think we do not operate enough, yet I would never sacrifice an upper extremity on account of a gunshot injury, unless in consequence of suppuration, ostitis, or periostitis rendering too large a portion of the shafts of the bones useless, and which only could occur as the result of previous expectant treatment. In my experience I have never seen a case of gunshot injury of the upper extremity in which "conservative" surgery—*i.e.*, the excision of the shoulder, elbow, or wrist, or even the resection of the shaft—could not have been done early in the history of the case, and so saved the limb. Cases of shell wounds are different.

(*To be continued.*)

Part Second.

REVIEWS.

Surgery of the Rectum. By Henry Smith, F.R.C.S. London: J. & A. Churchill: 1882.

It is unnecessary to make an extended notice of a book so well known, by an author who is looked upon as the chief authority on diseases of the rectum. We need only say that, besides being valuable, the book is also very readable. Mr Smith deals with fistula in ano, hæmorrhoids, stricture, polypus, and fissure—each in an interesting and masterful manner. There are a number of illustrative cases given which greatly increase the value of the work.

There is one point on which we would offer some criticism. In speaking of fissure of the anus Mr Smith says—in the very last paragraph of the book—that in connexion with venereal affections there may be a condition of matters resembling fissure. But he fails to point out the distinctive features, or the great danger from inoculation that may await the surgeon should he, through a mistaken diagnosis, operate on the former. It is well known that a condylomatous condition of the anus frequently presents a fissured surface, and that a surgeon operating with the knife runs considerable danger in such cases; while the knife is not really required, other remedies being amply sufficient.

In concluding this notice we most heartily recommend Mr Smith's new edition to the profession.

Syphilis. By V. CORNIL. Translated, with Notes and Additions, by J. HENRY C. SIMES, M.D., and J. WILLIAM WHITE, M.D. London: Henry Kimpton: 1882.

A NEW line is opened up in the literature of syphilis by this work, which deals mainly with the histological appearances found in the different lesions of syphilis, and less with the ordinary clinical features of the disease.

There are numerous illustrations, admirably lithographed, taken from microscopic sections of morbid specimens, which demonstrate very clearly the minute anatomy of the different syphilitic affections, from the initial sore to the gumma.

There is nothing new in the author's views of treatment. He ranges himself with the moderate mercurialists, such as Diday, Lancereaux, etc., and gives mercury in small doses in such a manner as to avoid salivation, and does not advise its administration after the syphilides have disappeared.

The translators have done their work well, and by their notes and additions have supplied important clinical information, the lack of which is the chief weakness of the original.

Quarterly Paper of the Edinburgh Medical Missionary Society.

THE first quarterly paper for this year of the Edinburgh Medical Missionary Society contains a great deal of valuable and interesting information to medical readers.

In the report of the annual meeting of the society reference is made to a great amount of useful work at home and abroad—in the dispensary, and in the homes of the sick.

In the present day many hold in our profession that the multiplication of charitable institutions for relieving the sick poor is pauperizing the people. Of such institutions, we know of none less likely to do harm, or more calculated to do good, than medical mission dispensaries. In our own cities they are always planted in the midst of the poorest localities, and none but the really suffering and destitute are likely to attend them.

The Edinburgh Medical Missionary Society, though deriving its name from our city and conducting a dispensary here, does not confine its operations to one part. Its agents are working over different parts of the world, and, according to the report, treated no fewer than between 13,000 and 14,000 patients last year. The Rev. Henry Cowan of New Greyfriars' Church, in referring to the catholicity of the society in its work of preparing students, said that "there is not a church or missionary association throughout Great Britain, of any importance, which has not availed itself of the society's help when they were requiring medical missionaries."

The quarterly paper has also a most interesting article on Zenana Medical Missions. We would like to draw particular attention to the statement by the Rev. Mr Lowe of the necessity for ladies being fully qualified in medicine and surgery before attempting to work alone. We thoroughly agree with Mr Lowe when he says that partially qualified lady missionaries are likely to do more harm than good to their patients, themselves, and the cause of medical missions, both abroad and at home. We can imagine nothing more dangerous than an attempt on the part of a lady, or any one, who is not thoroughly trained, to take the whole responsibility of, for example, a difficult midwifery case.

Zenana missions are a great and crying necessity. They must be worked by ladies. And though we do not think that lady doctors are quite unmitigated blessings, yet we are glad to know that in London and Dublin there are facilities provided for the medical education and qualification of ladies. And we even venture to express a hope that ere long there may be some means found whereby our Scotch ladies may in their own country be enabled to qualify for their noble and Christ-like work.

We have much pleasure in recommending the quarterly paper to our readers, and in assuring them that they will find in it much interesting and instructive information. The paper can be got from the editor, the Rev. John Lowe, F.R.C.S.E., 56 George Square, who is also superintendent of the Edinburgh Medical Missionary Training Home and Dispensary.

A Guide to the Medical Profession: a Comprehensive Manual, conveying the Means of entering the Medical Profession in the Chief Countries of the World. By EDWIN WOOTON, Trinity College, London; Edited and with Preface by LYTTLETON FORBES WINSLOW, M.B., D.C.L. London: L. Upcott Gill: 1883.

THIS is not a book to be read from beginning to end, but to be consulted by those students and others who are in quest of precise and accurate guidance in regard to the various schools of medicine which they may wish to attend, either for their convenient locality, their superior professional advantages, or their reasonable pecuniary demands. The author, Mr Wooton, must have devoted much time and care to his rather irksome task; but he has satisfaction, doubtless, in the conviction that he is a public benefactor, and has smoothed the way for many who might otherwise have involved themselves in much confusion. He deserves to have his labours crowned with success.

The Botanical Atlas: a Guide to the Practical Study of Plants; containing Representatives of the Leading Forms of Plant Life. By D. M'ALPINE, F.C.S., Lecturer on Botany, Edinburgh, etc. Parts I. to X. Edinburgh: W. & A. K. Johnston: 1883.

THE object of this work is to form a guide to the practical study of plants. The author shows the dissection of the parts in regular order, with the view of illustrating their leading characteristics. The drawings are meant to exhibit the natural colour of the plants, and on the opposite page the dissections, drawings, etc., are briefly explained.

The Atlas is to be in two volumes, one containing phanerogamous or flowering plants, and the other cryptogamous or flowerless plants. We have already ten parts before us, and are now able to speak of the merits of the work.

On the whole, the drawings are accurate, well engraved, and beautifully coloured—perhaps in some instances too highly coloured.

The work will undoubtedly be of much advantage to those who wish to study practical botany. In Part II. there are two plates of great interest to the medical profession. In them we have beautiful engravings of bacteria and micrococci. The Atlas will give an additional impetus to the practical study of plant life.

Messrs W. & A. K. Johnston are to be commended for the way in which they have executed the engravings.

Medical Education, Character, and Conduct. Introductory Addresses delivered to Students of Medicine in Edinburgh and Glasgow, 1855—1866—1882. By W. T. GAIRDNER, M.D., Professor of Medicine in the University of Glasgow, and Physician in Ordinary to the Queen in Scotland. Glasgow: James Maclehose & Sons: 1883.

THIS collection of addresses, representing a period of twenty-eight years in the life of one so able and eminent as Dr Gairdner, deserves to be carefully studied by all students of medicine, and by all, moreover, who are still occupied in any way with our noble profession. The last of the series gives an interesting, fair, and trustworthy account of recent changes in medical education, combined with a luminous statement of what the Scotch schools had been doing in the way of manifold improvements long before the Medical Act of 1858 had rendered these changes imperative both south and north of the Tweed. We have read nothing better fitted to stay the hand of those who meditate hasty interference with the time-honoured portals of the profession.

The address of 1866 describes very admirably the new epoch which had commenced a century before, with its rapidly increasing facilities for a scientific study of medicine, as contrasted with the slavish adherence to authority which, as a rule, characterized preceding generations. The earliest address of the three, delivered before the *extra-mural* school of Edinburgh, is more personal in its nature, and can never be out of date. We can conceive nothing better suited for animating young men with professional enthusiasm, with an elevated sense of their responsibilities in future life, and with a desire to do everything from an abiding sense of duty under the eye of God. We cordially recommend this little work, extending to eighty pages, to all whom it concerns.

Notes on Poisons: a Toxicological Chart, designed for Ready Reference. By J. MAYNE, M.D., L.R.C.S. Ed. London: J. & A. Churchill: 1882.

THIS chart is on strong cardboard, and is evidently intended to hang in the consulting room or laboratory. The intention is good, and in many respects might be made useful. It is not, however, very accurately prepared. It is surely a mistake to omit albumen as contained in the white of raw eggs from the antidotes to poisoning with such metallic salts as sulphate of copper and corrosive sublimate. Equally erroneous is it to call the following *corroding* poisons:—Atropia, colocynth, elaterium, gamboge, croton oil, etc. It is not easy to understand on what principle the following are placed among *vegetable* poisons:—Chloroformi vapor, nitrobenzoleum, and potasii cyanidum.

In its present form we cannot recommend it to our readers.

Snakes: Curiosities and Wonders of Serpent Life. By CATHERINE C. HOPLEY. London: Griffith & Farran: 1882.

THIS is a highly entertaining volume, and one which represents evidently the results of many years' conscientious labour on the part of the lady authoress. Miss Hopley is favourably known to naturalists as a keen observer of snake life; and her personal reminiscences of the ophidian group, as detailed in the large volume before us, will be found to be both instructive and interesting. Miss Hopley writes in a chatty and pleasant fashion; and although, here and there, one might have wished for less copious references to popular sources of information, still the book contains a very large amount of most interesting gossip regarding snakes. Even matters of such esoteric nature as the venoms of serpents and their remedies are duly noticed by Miss Hopley. Her book is one which might with great advantage be read by all who care for natural history studies of any kind. It will serve, in our opinion, at least one important end—namely, that of saying a good word for a much maligned and commonly detested, yet highly interesting group of vertebrates. We commend Miss Hopley's lively pages to the reader.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LXII.—MEETING IV.

Wednesday, 7th February 1883.—Dr G. W. BALFOUR, *President, in the Chair.*

I. ELECTION OF NEW MEMBERS.

THE following gentlemen were elected Ordinary Members of the Society:—Charles W. Cathcart, M.A., M.B., F.R.C.S.I. & E., Edinburgh; Alexander Bruce, M.A., M.B., M.R.C.P.E., Edinburgh.

II. EXHIBITION OF PATIENT.

Mr Maxwell Ross showed a MALE CHILD, æt. 7 weeks, the subject of a CONGENITAL TUMOUR OF THE STERNO-MASTOID (so-called). The same case was exhibited during the previous week at the Obstetrical Society by Dr Hunter Mackenzie. There was no circumscribed tumour, but a general infiltration of the muscle on the right side. This condition was first noticed when the child was ten days old. It was born of healthy parents, and the labour was comparatively easy, although it was a footling presentation. There was but little known of the pathology of such cases. It had nothing in common with the syphilitic myositis of the same muscle which occurred in adults, and Mr Arnot, who had published several cases in the *St Thomas's Hospital Reports* for 1876, did not think it was inflammatory. The affection yielded to the simplest treatment, viz.,—rubbing with oil.

III. Exhibition of Pathological Specimens.

I. *Dr Byrom Bramwell* showed (1) a preparation of the TUBER BACILLUS prepared by Dr Heneage Gibbs of London; (2) preparations (also microscopical) and diagrams of TUBERCLE THE CHOROID, taken from a case that occurred in the post-morte room during the present session.

II. *Mr A. G. Miller* showed a PIECE OF OMENTUM removed four days previously from a man with strangulated congenital hernia. After cutting down and opening the sac, he was astonished to find that he could pass his finger freely into the abdominal cavity. Along with the bowel there was a mass of omentum, in unravelling which he found that the bowel passed through an opening in it, in which it was strangulated. A small nick with the knife freed the bowel, which was at once reduced into the abdominal cavity. As it was possible that a similar strangulation might occur again, he thought it wise to remove the protruding omentum. This was done without much difficulty, though it was adherent in one or two places to the sac. The patient's progress was satisfactory.

IV. Exhibition of New Instruments.

Mr A. G. Miller showed (1) the most recent invention in the way of sprays, which was driven by condensed air; (2) Some new soft bougies.

V. Original Communications.

I. *Mr Maxwell Ross* read his paper on SEQUELÆ OF TRACHEOTOMY OCCURRING AFTER CLOSURE OF THE TRACHEAL WOUND, which appears at p. 786 of this Journal.

The President congratulated Mr Ross on his paper, and called for remarks from the members.

Mr Joseph Bell said the first thing that struck one in connexion with this communication was the almost encyclopædic amount of information quoted on a subject which was comparatively new to the Society. Occasionally after tracheotomy one had a difficulty in removing the tube, and, as a rule, he believed that difficulty would be found to be due to the growth of the granulations mentioned by Mr Ross. He generally found that careful and frequent application of bluestone prevented them from increasing sufficiently to do harm. It had fallen to his lot to have three cases of transverse wounds of the windpipe (two suicidal, one accidental), in which he had to perform tracheotomy, and he had found, as was indeed hinted in the paper, that these transverse wounds gave much more trouble, from stenosis occurring, than the longitudinal one made by himself. He thought it was always the case that in the trachea and other canals of the body the wounds made by the surgeon gave little or no trouble as compared with those inflicted therwise. The whole subject he felt to be one full of interest, nd he hoped the effect of the paper would be to lead them to hink a little more of the progress of their patients after they had assed from their care as cured. Mr Ross had mentioned to him ome time ago the observation of the French surgeon (Dr Mougeot), hat few children who had been successfully tracheotomized reached dult years. He was rather taken aback, and not inclined to elieve it at first, but on thinking it over it struck him how seldom hey really did meet with adults who had undergone tracheotomy n their childhood. Many of his own patients who had made good ecoveries from the operation had disappeared, and he could learn othing of them. He thought the Society was much indebted to Mr Ross for his paper.

Mr Duncan thought the subject was one of considerable interest, nd involved considerations of importance in reference to other anals in the body. A surgical wound in any canal, being longiudinal, did not lead to stricture in ordinary circumstances. On he other hand, an accidental wound almost invariably did, because t was transverse. This was specially seen in wounds of the urethra. To apply this to tracheotomy, it explained to him what he had not known before. It seemed probable that many children who had been tracheotomized successfully did not grow up to adult life. He could not remember many cases of his own who had done so, but that might be because he had not lived long enough. If the statement that they did not were true, it might be explained in this way, that the operation was done in children under very different conditions from what it usually was in adults. In children there was very often an inflamed and ulcerating condition of the windpipe at the time of operating or shortly after. The pressure of the cannula no doubt added to the ulcerative condition, and thus, from the circumferential destruction of tissue which took place, the contraction would be considerable.

Mr Ross thanked the Society for the kind manner in which his paper had been received. With regard to Mr Duncan's concluding remarks, Max Schüller, in *Die Tracheotomie, Laryngotomie, und Exstirpation des Kehlkopfes*, one of the best and most recent works on this subject, said that, so far as the observations went, stricture of the trachea never occurred from those post-diphtheritic and post-tracheotomic ulcerations. If they ever did, he was of opinion that they had a right to consider that there was a syphilitic taint n the patient's constitution.

II. *Mr Duncan* then read his paper on GERMS AND THE SPRAY, which appears at p. 778 of this Journal.

The President said the Society would be glad to hear remarks on his most interesting subject.

Mr Chiene said he was to a certain extent prepared for some of Mr Duncan's statements and conclusions, as he had told him of some of his experiments. While he expected some difficulties to arise, he had no idea that there were so many to be put in the way of those holding by the old faith. He was staggered at the results that had been obtained by Mr Duncan's experiments, because he had experimented himself on this subject several years ago, with urine alone, he admitted, and his results were quite contradictory of those of Mr Duncan. The flasks under the spray in the majority of cases remained pure. He would repeat those experiments after what Mr Duncan had said, and would communicate his observations to the Society; and he had no doubt Mr Duncan would be glad to hear his results. He was anxious to keep the spray, more especially for demonstration purposes. If they were to show students wounds for any length of time, they must have some antiseptic vapour influencing them. He had tried sanitas and eucalyptol, and found that neither were so efficacious as the ordinary one-to-forty carbolic lotion. He could not speak as to the size of the beakers; that was a new subject to him. He could only say that he would continue to use the spray during the operation and when wounds were to be exposed for any length of time: he still considered the clinical experience of more value than the experimental.

Dr Shand made a few remarks on the value of pure air in the treatment of wounds.

Mr Duncan, in replying, said that if Dr Shand wanted pure, germless air, he would have to go to the top of Mont Blanc for it. He could not have it in this country, not even in Kirkcudbrightshire. The points referred to by Mr Chiene were, of course, points requiring further observation, especially in matters of detail. As to bacteria occurring in acute abscesses, he was certain that they were to be found in ischio-rectal abscesses. He remembered two cases of abscesses of the cord in which they were observed, and another of strumous glandular abscess of the neck in which they were also seen. Certainly other developments than the chains of micrococci were to be found in abscesses. The experiments as to the value of the spray seemed to him to be conclusive, else he should not have brought them before the Society. He could not possibly have made a mistake in every one. A number of further experiments might be required, but he could hardly have made a series of gross errors. He was careful in noting that the spray took up a certain amount of the carbolic. He had made a number of observations on this point, and found that the quantity varied with different sprays, and even with the same spray at different times. He was careful to have his sprays in full working order, taking up at least six ounces of carbolic lotion in twenty minutes. He could not help coming to the conclusion that the germicide properties of the spray in the air were valueless.

BSTETRICAL SOCIETY OF EDINBURGH.

SESSION XLII.—MEETING III.

dnesday, 10th January 1883.—Professor SIMPSON, *President, in the Chair.*

The President showed the following specimens:—(1.) A us born a little before the seventh month, which made a few mpts at inspiration, but failed on account of the distention of abdomen with ascitic fluid—a condition described by Sir J. Y. pson as caused by intra-uterine peritonitis. The scrotum was distended, and the fluid could be compressed out of it into the minal cavity. The specimen was handed over to the iological Committee for examination. (2.) A FŒTUS, sent by Craigie of Musselburgh, with a morbid condition of the spinal mn which brought the base of the skull into relation with the bar vertebræ; there was also a certain degree of exomphalos. fœtus was delivered with forceps. (3.) GONORRHŒAL WARTS n unusual size, removed by the thermo-cautery from a case in ch the infection had taken place two years previously. (4.) ANENCEPHALIC FŒTUS with exomphalos, sent by Dr David son.

I. *Dr Croom* read his paper on OBSERVATIONS ON THE BLADDER ING THE PUERPERIUM.

he President said that this paper gave evidence of much careful rvation, and brought forward points which would prove to be ractical importance. It was worthy of note that the distention he bladder, in the cases recorded, made the uterus rotate round rtical axis in such a way that its anterior surface looked to left. This was the reverse of the rotation which he had rved as produced under similar conditions in the non-pregnant us.

r Hart thought that the form of the pelvis must be taken into unt in explaining the cause of this rotation. As the bladder ended, the posterior surface of the uterus would come into tion with the posterior wall of the pelvis, and the projection of promontory would cause a rotation.

r Napier remarked on the value of this paper as illustrating importance of the bladder as a factor in uterine displacements. the puerperal uterus was lifted up by the distended bladder, a iour (such as Fordyce Barker refers to in his book on puerperal ases) described as the distended bladder might prove to be fundus uteri.

II. *Dr Napier* of Dunbar read a paper on THE UMBILICAL CORD ND THE NECK OF THE CHILD AS A CAUSE OF DELAYED LABOUR, SOMETIMES OF INFANTILE DEATH, which will appear in a re number of this Journal.

The President said that the Fellows were specially indebted when a member came from the country to read a paper. In his experience, coiling of the cord round the neck of the child was not a frequent cause of delayed labour, and he doubted whether it could produce uterine inertia. It proved sometimes a cause of delay at the end of the second stage, so that he had to cut the cord to allow of the child's being born.

Dr James Young had found the cord coiled thrice round the child's neck, but never found it a cause of delay.

Dr Napier, in reply, said that he had divided the cord in the vagina with blunt scissors. The points which he wished to bring out in his paper were that cord-coiling was more frequent, and exercised more influence, than was generally supposed.

IV. *Professor Simpson* read his paper on BASILYSIS FOR DYSTOCIA FROM HYPERTROPHIC ELONGATION OF THE CERVIX UTERI, which appears at p. 769 of this Journal.

Dr Napier thought the new model of the basilyst was an improvement on the old, and seemingly a most effective instrument for breaking up the base.

Dr Gunning of Brazil expressed his interest in the new instrument, and suggested that the addition of hooks to the shoulders might render it of service as an extractor.

Part Fourth.

PERISCOPE.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

EUONYMUS ATROPURPUREUS—WAHOO.—Through the solar hypogastric plexus of nerves, euonymus has three special actions, viz., 1st, upon the liver, increasing the bile greatly; 2nd, upon the digestive organs generally, and acting as a hydragogue cathartic; 3rd, upon the kidneys, increasing blood-pressure, and, in overdoses, producing albuminuria—Bright's disease. The action of euonymus upon the bowels and liver resembles that of mercury and podophyllum, but it does not leave the liver in a congested state, like mercury, and it acts more powerfully upon the secretory cells of the liver than either the mercury or podophyllum. I have recently tested it thoroughly in quite a number of cases in my dispensary, and find that it most powerfully excites the flow of bile. In overdoses it produces a sick, weak sensation, a dull, heavy pain in the forehead, sickness of the stomach, perspiration, heat in the face, alternated with chills and profuse diarrhœa, with nausea, tormina, and cold sweats. In more moderate doses it acts as a cathartic, acting at the same time upon the liver and pancreas, thus aiding secondary digestion. It stimulates the entire nutritive process, and for that reason is a valuable remedy in debility and emaciation in many diseases. Much of the fluid extract that has been sold has been made of the old dried root and of the bark of the shrub; hence, almost worthless. I have a fluid extract from the most reliable firm, viz., Parke, Davis, & Co., which is very strong. In that condition of the digestive organs usually called "biliousness," I know of no remedy equal to euonymus, alternated with, or given with, nux vomica. In cholera morbus and cholera infantum, with profuse bilious stools and marked prostration and nausea, the euonymus, in very small doses, acts promptly. In dyspepsia, where duodenal and stomachal debility both prevail, euonymus, with nux vomica or hydrastis, will be found to be a positive remedy. In small doses, say 1 to 2 gtts. three times a day, it is a valuable remedy in albuminuria, and may be alternated with helonias dioica. It is generally believed that indigestion and torpid action of the liver precede albuminuria or Bright's disease; hence the utility of small doses of euonymus. One or two weeks' administration of euonymin or the fluid extract of euonymus will generally cause the albumen to disappear from the urine. It has speedily relieved pains in the back loins, hepatic, and splenetic regions. It is one of our most trustworthy remedies for gall-stones. It acts well in old chronic cases intermittents, hence has acquired the appellation of "antiperiodic." Some writers have reported favourably of euonymus in typhoid fever. It may regulate the functions of the liver, spleen, and bowels, and so tone up the system as to materially aid in eliminating the specific virus of this disease. Euonymin is a mild and certain cathartic in moderate doses. Bartholow says that its cathartic properties are similar to rhubarb, and is an excellent remedy in hepatic and intestinal disorders requiring such a remedy. Euonymus has more power over the pancreas and gastric glands than any remedy I know of, and hence its value in all forms of indigestion. The euonymin may be given in doses of ⅓ of a grain as a stimulant to the liver and pancreas, and Parke, Davis, & Co.'s fluid extract in doses of 5 to 10 gtts.—*The Therapeutic Gazette*, November 1882.

Coca, by Alexander Wilder, M.D., Newark, N.J.—During the last season it occurred to me to experiment with coca. I had read descriptions of its effects, which, I must acknowledge, greatly attracted me. I do not think I am very lazy, for I never saw the time when I was willingly unemployed; nor am I quite like the individual who pleaded that he was not lazy, but always tired. Yet in the days that the air is over-moist and otherwise stagnant, and the reverse of bracing, as well as when I have written twenty pages of foolscap or as many letters, I find a sense of fag or weariness almost unendurable. From the description of coca and its effects I imagined it worth my while to try it. I accordingly procured the fluid extract. Whether I took too much or too little I do not know. The apparent results did not seem conclusive. By the courtesy of the Messrs Parke, Davis, & Co. I was favoured with two packages of dessicated leaves. This is an agreeable method to me. I have not served my apprenticeship at the quid or cigar, but kept my mouth and body pretty clean. In my beliefs I am a philosopher, and so have convictions in that direction. I made use of the leaves in the hottest weather of summer, and when I felt exhausted almost to a deathly feebleness, observing apparent effects as carefully as I could, and making sure that imagination alone did not create them. I am not yet satisfied in all my wishes or expectations. Perhaps that is my own fault. Several times, especially in later trials, I perceived little change of sensation or bodily condition. But I oftenest noted the following effects:—I would resort to the coca about eleven or two o'clock in the day-time, or at the periods when the sense of exhaustion, vital depression, or "goneness" were most annoying. In a quarter of an hour or a little longer a strange disposition to sleep would ensue, which I yielded to or disregarded as external circumstances required or permitted. When this had passed by I experienced a vivid sense of being refreshed, elasticity of spirits, and ability to engage in study or any laborious mental application, which remained so for hours. Once or twice, while at the Concord School, I was attacked rather ungentlemanly by an Episcopal clergyman, and noticed with some curiosity a peculiar feeling of indifference to what he said. This was unlike my usual disposition. I could but attribute this to the drug. There was no intoxication, nothing like any suspension of faculty; but the natural sensitiveness to outrage was sensibly obliterated. Indeed, there was less disposition to go to sleep after the first somnolent feeling had gone by or been satisfied. But the counterpart of healthful natural action was so perfect that it required a day or two to learn that it was the influence of coca. I induced a lady to test it for a nervous headache. She did not try the experiment well, but she was greatly relieved. I have not been able to satisfy myself in regard to its value in any form of actual sickness. It seems to me to moderate the demand for food, and to reduce the quantity of excretive matter, especially that of the kidneys. I discover no ureic accumulation as a result of this, or any apparent mischief. It presented no condition of undue excitement, but seems rather to enhance the vital powers. I am now apparently in better health than I have been for a long time. Perhaps if I had prosecuted this matter with more energy I might have found myself younger; but so far as I have gone with it I am very well pleased.—*The Therapeutic Gazette*, November 1882.

BORACIC ACID IN THE TREATMENT OF BOILS, ETC.—Dr Gourgues (*Journal de Méd. de Paris*, 22nd September) recommends an ointment of four parts of finely powdered boracic acid, one-half part ot benzoic acid, and twenty parts of vaselin. It promptly relieves the pain, and causes the disappearance of the boil in three or four days.

Championièrre also recommends a somewhat similar ointment of the same strength, and with the addition of Peru balsam (about five parts) to give it an agreeable odour, as a remedy for excoriations, erythema, superficial wounds, etc.—*New Remedies*, January 1883.

Pilocarpine in Diphtheria.—In the *Boston Medical and Surgical Journal* for 26th October is a summary of the recent reports upon the use of pilocarpine in diphtheria. From this we learn that Dr Paynardeau finds that its use leads to an early detachment of false membrane (especially serviceable in membranes located in inaccessible places); but, on the other hand, it is apt in some cases to cause violent vomiting, diarrhœa, and collapse, conditions to be avoided in a disease like this, where cardiac weakness is a constant factor. Dr Tazac not only recommends it for the reasons first mentioned above, but thinks that its use is oftentimes followed by improvement in the general condition of the patient, and that its early administration may abort the disease. [*Query.*—How many of the cases were simply follicular pharyngitis?—Ed. *New Rem.*] Demme gives the remedy hypodermically. Lepidi-Chioti gives it as an enema, three centigrams (about one-half grain) in two ounces of fluid. M. Archambault reports twenty-one cases of diphtheria, of which twelve died. The nine cases which recovered were not severe ones. His conclusions are—"(1.) That no case was cured which seemed to show clearly any positive and at the same time unusual efficiency in the treatment. (2.) That in many cases the remedy acted unfavourably by causing great depression without any compensatory amelioration in other symptoms of the disease. (3.) That in the cases which ended in recovery the membrane did seem to be loosened and more readily removed than in cases in which salivation was not induced, but this greater facility of removal by salivation did not seem sufficiently advantageous to outweigh the other depressing effects of the treatment. (4.) That in the severe cases a new membrane was deposited on the surfaces from which old patches had recently separated, in spite of the fact that salivation was being kept up by the use of pilocarpine, and therefore that the treatment did not prevent the continued formation of membrane." In general, the author is inclined to infer from his observations that the treatment of diphtheria with pilocarpine is not followed by good effects, and that its advantages are outweighed by its disadvantages.—*New Remedies*, December 1882.

Notes on Three Drugs.—Briefly I shall mention three materiæ medicæ and their uses. 1. Powder of capsicum, two drachms to the ounce of prepared lard, rendered elegant by the addition of one of the essential oils, is a seldom-failing local application in subacute and chronic forms of rheumatism. It must be rubbed over the affected part for ten minutes by a gloved hand, and the application of dry heat intensifies the rubefacient action, which continues for a considerable time afterwards, being even somewhat revived by heat or walking. It is to be used freely night and morning, or at bedtime only (in lumbago, for example, the first thorough application often gives marked relief), according to the effect produced on the sensibility of the patient, and on his disease. 2. A year and a half ago I published a note in a contemporary journal in reference to the antiseptic treatment of what are called the zymotic diseases (I trust we shall soon be naming them the protistozooic diseases), mentioning the administration of carbolic acid in scarlatina; but I have since then, with more advantage, used the benzoate of ammonia as my germitox (a word meaning germ-poisoner better expresses the idea of the various degrees of antiseptic action than a term meaning germ-slayer). In doses of fifteen grains every three or four hours to an adult, and proportionately for children, it is an efficient treatment in scarlatina anginosa and milder forms, combined or not with liquor ammoniæ acetatis. I have been informed, by a friend, of its uncombined exhibition in an apparently hopeless case of scarlatina maligna, where recovery followed. 3. Syrup of the protochloride of iron, in drachm doses thrice daily, diluted with water, recommended, I believe, by Professor Fraser of Edinburgh, I have seen to be of great benefit particularly in the anæmia of young females. It appears to me to take rank with, if not, all things considered, over, the famous Blaud's pill (A. Drummond Macdonald, M.B. and C.M. Edin., Liverpool).—*The British Medical Journal*, February 1883.

OCCASIONAL PERISCOPE OF DERMATOLOGY.

By W. Allan Jamieson, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

Burdock in Psoriasis.—Reiter recommends a tincture made of the seeds of the burdock (*Lappa major*) in psoriasis. The tincture is of the strength of two ounces of the crushed seeds to the pint; and the dose half an ounce three times a day, well diluted, immediately after meals.—*Squibb's Ephemeris*, September 1882.

Acne Atrophica, or Lupoid Acne.—A form of acne is described by Bulkley under this name, which he regards as distinct from common acne, and, if allied to lupus, yet yielding to a line of treatment to which lupus does not respond. Lupoid acne appears and continues its outbreaks at a more advanced period of life than common acne. The process is a very chronic one; the grade of inflammatory action is low, and the cicatrices which result seem to be due more to altered nutrition and absorptive action than to the severity of the inflammation. It has no relation to syphilis, though the lesions and the scars suggest it most forcibly. The cases cited were benefited or cured by the local application of a white precipitate and bismuth ointment, or a lotion of sulphuret of potassium, zinc, and rose-water. Internally a mixture containing acetate of potass., tincture of nux vomica, and dock root was prescribed.—*Journal of Cutaneous and Venereal Diseases*, October 1882.

DIAGNOSIS OF PAGET'S DISEASE OF THE NIPPLE FROM ECZEMA OF THE NIPPLE.—Dr M'Call Anderson thus formulates the diagnostic points between these two conditions, which often closely resemble each other:—

Paget's Disease of the Nipple.	*Eczema of the Nipple and Areola.*
1. Occurs especially in women who have passed the grand climacteric.	1. Occurs especially in women earlier in life, and particularly during lactation, or in persons labouring under scabies.
2. Affected surface, in typical cases, of brilliant red colour; raw and granular-looking after the removal of crusts.	2. Surface not so red and raw-looking, and not granular, but often punctated.
2. When grasped between the thumb and forefinger, superficial induration often felt, as if a penny were laid on a soft elastic surface, and grasped through a piece of cloth (Thin).	3. Soft, and no induration.
4. Edge of eruption abrupt and sharply cut, and often elevated.	4. Edge not so abrupt, and not elevated.
5. Very obstinate, and only yields to extirpation or other treatment applicable to epithelioma generally.	5. Although sometimes obstinate, yields to treatment applicable to eczema.

—*Glasgow Medical Journal*, October 1882.

SNOW notes that Paget's disease of the nipple may be simulated by syphilis. In the case of a middle-aged married woman, with no history or indication of syphilis obtainable at the time, a shallow triangular ulceration prevailed over the whole areola and nipple. The red strawberry-like appearance of Paget's disease was absent, and healing took place under iodoform ointment. Later signs of venereal infection appeared.—*Brit. Med. Journal*, 16th December 1882.

WARTS.—Dr White, at the last meeting of the American Dermatological Association, recommended for warts on the hands, to be applied daily for several days—

℞ Ext. Cannabis Ind., gr. x.
Acid Salicylic, gr. xxx.
Collodion, ℥j.

It had not failed once in fifty cases.—*Maryland Medical Journal*, 15th September 1882.

VENEREAL AND COMMON WARTS.—Unna (*Monatshefte für prakt. Dermat.*, 1882, No. 31) recommends for the treatment of condylomata acuminata and ordinary warts the continuous application of ung. hydrarg. containing 5 $^{\circ}/_{\circ}$ of arsenic. In the case of a young girl upon whose hands were a hundred or more warts, the unbroken application for three weeks of a plaster containing in each 0·2 square metre 10 grammes of arsenic and 5 grammes of mercury caused entire disappearance of the disease without any irritation of the normal skin. Cure was effected, not by reason of necrosis and destruction of the warts, as after the use of caustics, but by resorption, as in cases of spontaneous cure.—*Dublin Medical Journal*, December 1882.

THE ODOUR OF IODOFORM.—Having tried nearly all the devices that have been suggested for mitigating or disguising the odour of iodoform, and found them all of little or no avail, we have lately come nearer to the object by using oil of eucalyptus according to the following formula:—

℞ Pulv. Iodoformi, ℥ss.
Ol. Eucalypti, ʒss.
Vaselin, ℥iv.
M. Ft. ung.

The ointment thus prepared is not without odour, but the odour is not that of iodoform.—*New York Medical Journal*, October 1882.

TRANSFERABILITY OF ALOPECIA PREMATURA.—Lassar and Bishop relate some experiments which seem to point to the contagious nature of alopecia prematura. A young man of 25, himself healthy and of a family not predisposed to baldness, had become bald over the front part of the head within five or six years. The hair near the bald part was lustreless, and came easily out when pulled, while numerous fine scales were clustered over the surface. The hair and scales which were brushed off were mixed with vaseline to form an ointment, and this applied to the skins of a healthy rabbit and guinea pig. These, in the course of rather more than three weeks, became bald over the parts on which the ointment had been applied, and an abundant scaliness was produced. The scales and hairs from these animals were likewise made into an ointment, and this caused marked baldness in a rabbit to whose skin it was applied. From it, again, a third was infected, and it became the baldest of all. In the meantime the head of the young man was treated by washing with tar soap, and application of corrosive sublimate lotion, solution of naphtol, and carbolic oil. This was continued eight weeks, when a new and stronger growth in the bald and partially denuded parts was plainly visible. An ointment made from the fallen hairs, now only $\frac{1}{50}$ part in weight than before treatment was begun, when applied to a rabbit, caused no morbid symptoms.—*Monatshefte für prak. Dermatologie*, July 1882.

FROM an ANALYSIS OF 8000 CASES OF SKIN DISEASE furnished by Bulkley from the records of his public and private practice we may cull a few notes. He believes acne to be much less common among males than females. The sedentary habits of females predispose to the sluggish circulation and the consequent dyspepsia and constipation and imperfect tissue interchange which are at the bottom of very many cases. The greater disturbances of the system which occur at puberty and the menopause contribute also largely to the production of acne in females. As a local element may be mentioned the greater tendency in females to make applications to the face in the way of perfumes, powders, and cosmetics, which undoubtedly greatly tend to develop the eruption. Bulkley recognises a lichen simplex separate from papular eczema, from which he says it differs in many particulars. He met with twenty-four cases of lichen planus, some of which resembled closely the lichen ruber of Hebra. Alopecia areata occurred about five times as frequently among those in the higher classes as among those in the lower walks of life. This points strongly towards the neurotic origin of the disease, and equally strongly away from its supposed parasitic origin. It was rarely seen among the young, only one-sixth of the cases being twenty or under, and it is rare after forty. One case of zoster was that of a lady of eighty-one; the eruption was on the left side of the neck, extending into the hair. "The neuralgic pain of this was very great, but was completely removed by a few applications from a galvanic battery" (constant current?). In two cases of leprosy in private practice the patients were native-born Americans. No hereditary history was made out, and they had never been five hundred miles from New York. A single case was recorded as rhinoscleroma in the person of a young lady of 27. The clinical features, the age of the patient, and the behaviour of the disease after cauterization and cutting operations, all pointed strongly to the affection described by Hebra as rhinoscleroma, but after excision the growth resembled epithelioma microscopically in many of its elements.—*Archives of Dermatology*, October 1882.

PERISCOPE OF SYPHILOLOGY.

By Francis Cadell, F.R.C.S. Ed.

The Relation of Syphilis to Scrofula.—There is a paper in the *Philadelphia Medical Times* by Dr J. B. Roberts, in which, after stating both sides of the question, the author draws his own conclusions.

The affirmative side:—

I. Syphilis and scrofula undoubtedly show a tendency to affect similar structures, as is proved by the many diseases, formerly classified as scrofulous, now known and admitted to be inherited syphilis. In fact, those who hold that the two affections are distinct are obliged to admit that it is sometimes impossible to determine from symptoms, or even from the antecedent history obtainable, which disease is responsible for the lesions exhibited.

II. Scrofula has been, and is, most common at times of life, in historic periods, and in countries in which syphilis is known to have been and to be prevalent and virulent. Again, scrofulous diseases are less prominent and more benign at the present day than formerly; when acquired, syphilis was more destructive, because less judiciously treated.

III. Scrofula is usually an inherited condition, and could readily, therefore, be due to such a widespread and prolific percentage as syphilis.

IV. Scrofulous affections are found in the highest stations of life, a fact which would be well-nigh inexplicable if scrofula were the resultant of exposure, insufficient food, filth, and bad air. If it be a grandchild of syphilis, however, its presence in every household can be as general as immorality that gives birth to its ancestor.

V. Cases occur similar to that reported by Lugol, who refers to a family of two healthy children, the father of whom subsequently contracted syphilis and inoculated his wife. A third child was born, who, after exhibiting many scrofulous symptoms, died at eighteen years, though the elder brother and sister presented no such conditions of ill-health.

VI. Acquired syphilis has been accused of awakening scrofulous manifestations in those predisposed to scrofula, in whom no symptoms have occurred for years.

VII. Scrofula is the condition furnishing deposits of tubercle, which are the result of infection arising especially from cheesy accumulations. Syphilis is an incessant instigator of inflammations and of gummy tumours, which frequently undergo caseous degeneration. Hence pathology points to syphilis as an agent well calculated to give birth to the scrofulous diathesis.

VIII. The most effectual remedies in the treatment of syphilis, whether acquired or inherited, are mercurials and preparations containing iodine. These so-called specifics in the management of syphilis are agents of greatest benefit in alleviating scrofulous manifestations.

The arguments of those denying the syphilitic parentage of scrofula may be summarized as follows:—

I. Scrofula is not inoculable, as are the primary, secondary, and sometimes the inherited lesions of syphilis.

II. The successive steps between syphilis in the progenitor and scrofula in the posterity have not been properly traced.

III. Scrofulous affections are found in patients who have presented no such manifestations in early life (when inherited syphilis is especially noticeable), who have had neither scrofulous nor syphilitic parentage, and who have never acquired primary syphilis. Moreover, phthisis, which is a lesion of scrofula, is found very frequently in animals not known to have syphilis.

IV. Scrofula is not considered a factor in the causation of syphilis, as might be expected if there was a mutual relationship between them.

V. Scrofula is believed by some to have existed in Europe before the advent of syphilis, and, according to certain writers, is now prevalent in countries where syphilis is rare.

VI. Syphilis yields more quickly and completely to treatment than scrofula, though the same or similar remedies may be available in both diseases.

A survey of the field has led the author to the conclusion that vast numbers of cases of so-called scrofulous disease are the direct result of inherited syphilis.

ON DISCHARGES OF PUS FROM THE MALE URETHRA WHICH ARE NOT GONORRHŒAL.—Dr Tom Robinson gives the case of a gouty patient who suffered from a profuse purulent discharge from the urethra, which he believes to be non-venereal (*British Medical Journal*). He also refers to enlarged prostate and organic stricture as being common causes for these discharges. He does not doubt that muco-purulent discharges, not distinguishable from gonorrhœa, do occur in instances where the irritation is not set up by specific pus-cells. [In our experience a non-venereal purulent discharge from the urethra, occurring where there is no organic disease in the canal, is extremely rare.]

QUARTERLY ABSTRACTS OF PAPERS ON THE DISEASES OF CHILDREN.—No. I.

By J. MILNE CHAPMAN, M.B , M.R.C.P.E. (by exam.), M.R.C.S.

[*These Abstracts will be taken chiefly from American and Foreign Periodicals.*]

PROLONGED DIPHTHERIA (DE LA DIPHTHERIE A FORME PROLONGÉE), by Dr Cadet de Gassicourt (*Revue Mensuelle des Maladies de l'Enfance*, Jan. 1883).—By the term prolonged diphtheria the author does not mean either the chronic or the subacute form of the disease, but he would thus describe a class of cases which (in their early history) have nothing to distinguish them from ordinary cases, but which, instead of terminating either in death or recovery within a period fixed in the paper at a month, continue longer, as evidenced by the "incessant reproduction" of false membranes. In other words, by prolonged diphtheria he means diphtheria "prolonged beyond the ordinary limits." To the question of why such cases should occur he finds no answer. Attention is drawn to the fact that in the reported cases there was no evidence of systemic poisoning during the period of reproduction of false membranes, and this is explained on the supposition that the membrane is merely a product of the disease, and that in no case does it either primarily or secondarily cause systemic poisoning. Two cases are detailed, in one of which, after an ordinary attack lasting twenty-seven days, the child completely recovered its health, but false membranes continued to form for nineteen days; and, in the other, a hospital intern was compelled to travel for nine months after his convalescence before the formation of false membranes ceased. Several cases are then considered under the designation of croup, but which were, the author states, instances of diphtheria of the air-passages, as evidenced by their clinical history—the occurrence of albuminuria, etc. He holds that cases may be prolonged, 1st, where tracheotomy is unnecessary; 2nd, before tracheotomy becomes necessary; and 3rd, after its performance. Instances are given where the disease was prolonged from 55 to 151 days. In all such cases the author states that any danger which may arise will be of a mechanical, and never of a toxic nature.

THE MALIGNANT TUMOURS OF CHILDHOOD, by Dr de Saint-Germain (*Ibid.*)—The writer states that previous to 1851 the occurrence of cancer in a child was looked on as a scientific curiosity, but that since then the progress of histological research has led to the recognition of numerous cases. He summarizes the literature of the subject, and adds accounts of several cases which have occurred in his hospital practice, as also of a few already reported cases. As a result of his observations, he draws the following conclusions:—1st, The order of frequency with which various structures are affected is, the eye, the kidney, the testicle, the prostate, the tongue, the bones, or rather the extremities. 2nd, Males are more frequently affected than females, probably on account of the presence of the testicles and prostate. 3rd, In his own cases heredity did not seem to have any importance from an etiological point of view. 4th, Cachexia is of rare occurrence in children affected with malignant growths. 5th, Progress in those cases is usually very rapid. 6th, In two cases he has noticed such a cessation in the growth of malignant tumours and apparently retrogressive changes that he would advise courage in having recourse to surgical interference.

NEW JOURNAL IN THE DEPARTMENT OF CHILDREN'S DISEASES.—The preceding two abstracts are made from a new monthly journal devoted to the diseases of children, which is under the conjoint editorship of the authors of the two papers noted. The reason for its appearance is stated in the preface to be because "in the midst of a luxurious vegetation of periodical literature a corner has remained vacant" (*i.e.*, in France), and on account of the development of children's diseases as a specialty, as also of the importance of hygiene on the healthy upbringing of the young, which latter subject is to be largely represented in its pages. A staff of collaborateurs is mentioned on the cover which quite justifies the editor's statement, that "their names and the positions which they occupy are sure guarantees that the publication will have a really scientific character." Abstracts and notices of communications relating to the diseases of children which may be made to societies in France and elsewhere are promised, though in the number to hand the only representative in this line is a short discussion on tarsotomy which took place in the Paris Academy of Medicine. There is also a brief account of the clinical work being done at the Children's Hospital in Paris by Dr Jules Simeon. The two papers by the editors fill 50 of the 56 pages, and with the two short notices referred to above constitute the whole number.

ON THE SYMPTOMATOLOGY OF PERICARDITIS, ESPECIALLY IN YOUNG INDIVIDUALS, by O. Rossenbach (*Deut. Med. Wochenschrift*, 1882, Nos. 44–46).—This paper is founded on a consideration of five cases of pericarditis, in all of which, besides friction sounds at the base, there was a murmur at the apex apparently of mitral origin. In the two first cases mitral insufficiency was diagnosed, but was not found on post-mortem examination. The succeeding cases were then more carefully studied. The grounds for considering that in none of them was there insufficiency were, that one came to the post-mortem table, and that in the other two the murmur gradually became fainter and ultimately vanished as the pericarditis improved, while no symptoms of valve lesion showed themselves. In character the murmur in those cases was long and very distinct; the first part of it was blowing, and it invariably ended in a whistle. The heart sounds were distinctly audible. Usually the point of maximum intensity was outside the apex beat, and the line of propagation more marked towards the axilla than towards the base of the heart. Pressure on the intercostal space, where it was best heard, caused no alteration in contrast with endocardial murmurs, which, as a rule, become weaker on firm pressure being applied. In one case the murmur disappeared when the patient lay on the right side. The writer suggests that the presence of this murmur may prove useful in diagnosing between pericarditis and pericardial pleurisy, and also that it may account for some of those cases in adults where a systolic apex murmur exists without any other indication of valvular disease.

ON THE TISSUE CHANGES IN THE NEW-BORN, AND THE INFLUENCE OF THE ADMINISTRATION OF CHLOROFORM TO THE MOTHER ON THEM, by M. Hoffmeier (*Virchow's Archiv*, lxix. 3). ICTERUS NEONATORUM, by M. Hoffmeier (*Zeits. f. Geb. u. Gynäk.*, Bd. vii. Heft 2).—The urine of thirty-four healthy new-born infants was daily examined. As a result it was found that the amount passed increased from the first to the tenth day of life sixfold, and that the solid contents increased during the first three days fourteenfold, and by the tenth day fell to half of this maximum amount. During the first three days a degree of albuminuria was also noticed. The connexion between the foregoing conditions and the loss of weight which takes place during the first few days of life is pointed out, and it is suggested that during that time the child uses up some of its own albuminoids to support life. In cases where chloroform had been given to the mother, all those changes were exaggerated, while a degree of icterus was frequently noticed. This icterus the writer regards as of hæmatogenic origin.

He also found that in cases of icterus neonatorum these changes were also greatly increased, and he explains the occurrence of this affection on the supposition that the products of the excessive production of blood-corpuscles and the increased liver irritability produced by the commencement of intestinal action combine to cause the production of a highly pigmented biliary secretion in excessive quantity, which overflows into the circulation the more readily, perhaps, on account of the anatomical arrangement of the parts in the fœtus.

A CONTRIBUTION TO THE STUDY OF THE MANNER OF TRANSMISSION OF SYPHILIS IN UTERO, by Hugo Engel, M.D. (*Am. Journ. of Obst. and Diseases of Women and Children*, Oct. 1882).—After detailing several cases and discussing the views of former writers on the subject, the author arrives at the following conclusions:—1. If the father is syphilitic and has not been properly treated, his wife as well as the fœtus will be infected through him, the wife giving visible evidences, and the fœtus either still-born or soon dying. 2. If the mother, at the time of fecundation, is suffering from syphilis, and is during her pregnancy not treated properly, she will not give birth to a living child until, perhaps, after several abortions. 3. If the father had been syphilitic but treated properly, so that at the time of fecundation he showed no symptoms of the disease, the fœtus may be born healthy. A congenital form developed later in the child will easily be cured, and the mother will be affected by an obscure form of syphilitic diathesis with almost no symptoms; but she will be liable to cause syphilis in any other man with whom she may have connexion. 4. If the father or the mother was syphilitic at the time of fecundation, and if the mother is subjected during her pregnancy to a systematic treatment with mercury, the results will be similar to those in Case 3. In both cases, the earlier the treatment and the more thorough, the greater the effect. 5. A mother carrying a healthy fœtus, but becoming syphilitic during pregnancy, will transmit the disease to the fœtus, the latter, however, evincing a greater vitality than if the disease had been transmitted at fecundation or within the first few days of its existence. Treatment has here a similar influence as in other cases. 6. A syphilitic child will not infect its own mother by nursing, but may do so to any non-syphilitic wet-nurse. 7. If a healthy woman married to an apparently healthy husband, both being young, aborts without any apparent cause, in nine cases out of ten this tendency to abortion may be cured, and the woman made to carry the fœtus to term, by subjecting her as well as the husband to antisyphilitic treatment, especially, however, the husband, who, even if he denies his guilt, is usually at fault. In regard to the treatment of syphilis, the writer expresses his belief in the use of mercury, and especially recommends that it be administered by inunction. For children he employs the following method:—From 5 to 25 grains of common mercurial ointment, to which have been added 100 to 25 per cent. of cosmoline (according to age), are daily rubbed upon a bellyband, the latter not being changed during the whole course, but the abdomen being cleaned before each application with a little Castile soap and tepid water and then carefully dried. During treatment the state of the buccal cavity is to be well watched, and kept in a good condition by brushing or rinsing it with a moderately strong solution of chloride of potassium—not the chlorate, which is usually, but wrongly, applied for this purpose.

INCONTINENCE OF FÆCES IN CHILDREN, by G. B. Fowler, New York (*Am. Journ. of Obstet.*, etc., Oct. 1882).—The writer narrates two cases, one in a boy aged 7, "of mushroom growth and hot-house culture," who, as a result of high-pressure tuition, "had developed into a sort of loaded phonograph, capable of startling automatic expressions which afforded much entertainment to visitors and gave the ambitious father great hope and comfort. Under such conditions," says the writer, "it is not to be wondered at that something gave way; and, fortunately for the brain, it was the sphincter ani." The second case was a tall, slim, anæmic-looking girl aged 13, to whom iron in none of its forms had proved beneficial. The boy was treated with ergot by the mouth, and the girl by means of ergotine suppositories, with the result in both cases of rapid improvement and speedy cure.

SPECIFIC VULVO-VAGINITIS IN CHILDREN, ITS NATURE AND TREATMENT, by Richard Pott, Halle (*Jahrbuch f. Kinderheilkunde*, Bd. xix. Heft 1).—The writer met with 44 cases in 6 years. 27 of these were under 5 years of age, 13 between 5 and 10, and 4 between 10 and 15. After discussing the various causes, among which he includes congenital syphilis, masturbation, and the various fevers, showing the wide use he makes of the term specific, he recommends for the treatment of such cases the use of iodoform bougies, stating that he has seldom required to use more than one. The bougie must be placed so that its lower end is within the hymen, iodoform powder being used for the vulva. He points out the necessity, in severe cases, of tearing the hymen so as to prevent retention of the discharge.

ASTHMA DYSPEPTICUM OF CHILDREN, by Oscar Silbermann, Breslau (*Berlin. Klin. Wochenschrift*, No. 22, 1882).—Three cases are related, of which the following may be taken as a sample:—A strong, well-developed child, aged 13 months, suddenly became dyspnœic and cyanotic. Respiration 70°; pulse thread-like, 160 per minute. Examination of the thoracic and abdominal organs revealed no cause for such a condition. On the morning of the next day violent vomiting occurred, with immediate relief of the symptoms, and in a couple of days the child was quite well. In the second case, aged 6 months, relief followed the vomiting of some boiled egg. In a third, aged 8 years, there was, besides the above symptoms, well-marked œdema of the lung, and the cause was undigested potatoes. The writer compares his cases with four recorded by Henoch, and, instead of Henoch's theory that the symptoms in this affection are caused by a reflex vasomotor contraction of the smaller arteries, he suggests that they are caused by interference with the functions of the pneumogastric.

ACUTE STENOSIS OF THE LARYNX IN CHILDREN, by Dr Roth, Vienna (*Archiv f. Kinderheilkunde,* 1882, Hft. 7 and 8).—Nothing is added to our knowledge of this condition by the writer, but the best part of the paper consists in the strong recommendation of laryngoscopic examination in such cases, and the instances given of the utility of such examinations.

ORTHOPEDIC DEFORMITIES OF EARLY CHILDHOOD, by C. F. Stillman (*Am. Journ. of Obstet.*, etc., Oct. 1882).—In this paper, which is number two of a series appearing in the *American Quarterly Journal,* the subject of inversion of the feet, local and general, is fully dealt with, and various forms of mechanical appliances suitable for such cases described and figured.

OBSERVATIONS ON THE EFFECTS OF COW KOUMIS IN VARIOUS GASTRO-INTESTINAL AFFECTIONS OF CHILDREN, by Dr Semtschenko (*Archiv f. Khkunde,* vol. iv. Heft 1, from Wratsh).—The writer gives his experience of the above remedy in dyspepsia, acute and chronic intestinal catarrh, cholera infantum, and rickets. It was given iced in small quantities frequently repeated, and all other feeding was stopped except in the cases that were at the breast, where nursing was continued. As a rule the children refused it at first, and occasionally it produced some vomiting, but after a few doses it always agreed and seemed to be taken with relish. The results were in all cases satisfactory. Directions for the manufacture of koumis from cow's milk are given.

THE TREATMENT OF CHOLERA INFANTUM BY KOUMIS, by A. Krasin (*Ibid.*, from *Aerztliche Nachrichten aus St Petersburg*).—In this paper numerous published observations are repeated; and, having regard to them and to his own experience, the writer warmly recommends the employment of koumis in the above disease. In cases of collapse he uses the ordinary koumis on account of its great stimulating power, but as a rule he has recourse to the variety which has been allowed to ferment for one day only, and he administers it in much the same way as advised in the preceding paper.

SYPHILITIC PSEUDO-PARALYSIS, OSTOPHYSIS, AND GELATINOID DEGENERATION, by M. Parrot (*Ibid.*, from *Gazette des Hôpitaux,* No. 17, 1882).—An apparently paralyzed syphilitic child died at the age of three months, and the above conditions were found around th ends of the bones. The writer describes the condition as one pseudo-paralysis occasioned by the inability of the child to use i limbs in consequence of a greater or lesser degree of mobility between the epiphysis and diaphysis, so that the bones are, as it were, fractured, and standing or walking thus rendered impossible. For similar reasons the arms were useless.

A CASE OF PARALYTIC DISLOCATION OF THE HIP-JOINT, AND OTHER CASES OF INFANTILE PARALYSIS, WITH REMARKS ON THE SURGICAL TREATMENT OF INFANTILE PARALYSIS, by E. H. Bradford (*Boston Med. and Surg. Journal*, 25th Jan. 1883).—At the end of this paper the following conclusions are summarized in regard to this disease—essential paralysis of children, or myelitis of the anterior cornua:—1. Recovery complete or partial is the rule after the initial attack. 2. After the maximum of recovery has taken place the deformity becomes an important element in the affection. 3. Deformities should be prevented if possible, and corrected when present. 4. The promotion of locomotion by suitable appliances is, in the later stages of the affection, the only means of treatment.

NEW INSTRUMENTS.—AN INSTRUMENT TO FACILITATE THE PERFORMANCE OF CIRCUMCISION IN CHILDREN, by R. J. Levis (made by Snowden, 7 S. 11 St., Philadelphia).—In general form the instrument somewhat resembles the ordinary mathematical compasses or dividers. The limbs, or blades, terminate in blunt points, and are deeply serrated on their outer surfaces, with points or teeth set backwards, like fine saw-teeth, for the purpose of firmly holding the mucous membrane without the risk of slipping when traction is made. The blades are forced apart by a thumbscrew. In operating, the blades, closed to a point, are introduced within the prepuce up beyond the corona of the glans. They are then, by turning the thumbscrew, strongly separated, so as to render the mucous membrane tense. Traction is then made, and the outer elastic skin is drawn back fully, so as to be away from the portion to be excised, and excision is effected by transfixing the prepuce through the middle with a bistoury, and cutting laterally in both directions toward the blade of the instrument. In this manner the inner inelastic mucous membrane may be removed while all the normal outer integument remains.

TRACHEAL SPECULUM INSTEAD OF THE TRACHEAL CANNULA, by Bratz (*Centralblatt f. Chirurg.*, No. 38, 1882).—This consists in a bivalve speculum instead of the outer tracheotomy tube. The two limbs have the curve of the ordinary instrument, and are fixed to a collar which is fitted into the outer shield portion so as to allow of a degree of mobility between the part of the instrument which is secured to the neck and the part which is inserted into the wound. The advantages claimed for this modification are the greater ease with which false membrane is expelled, the lesser likelihood of secretions gathering between the tube and the trachea, and the ease with which the trachea and larynx can be explored by means of mirrors.

CASES.

Stenosis of Trachea and Bronchi in a Child, the result of Inflammation and Suppuration of the Bronchial Glands.—S. Neuman, *Wiener med. Wochenschrift*, 1882, Nos. 20, 21.

Diffuse Congenital Keratoma (Ichthyosis Congenita).—B. Livingston, *Am. Journ. of Obst.*, etc., Oct. 1882.

Ibid., Dr G. Wheelock.—*N. Y. Med. Journ.*, Oct. 1882, p. 408.

Hernia Incarcerata in Infancy.—Ch. Féré, *Révue de Chirurgie* (a collection of fifty-six cases); also J. M. Cotterill, *Brit. Med. Journ.*

Urethral Calculus in an Infant.—Troitzki, *Analecten of Jahrbuch*, in *Am. Journ. of Obst.*, Oct. 1882.

Idiopathic Salivation in a Child.—Finlayson, *Glasgow Med. Journ.*, Aug. 1882.

Intussusception in a Child Nine Months old relieved by Injections of Water, by Chloroform, and by Massage.—Gillette, *N. Y. Med. Journ.*, Sept. 1882.

Noma Pudendi.—Anna Lukens, M.D., *Ibid.*, October.

Locomotor Ataxia in a Three and a half Years old Boy.—Leubuscher (Jena), *Berliner klin. Wochenschrift*, 1882, No. 39.

Abscess Discharging at the Umbilicus in an Infant.—C. W. Stickney, *Boston Med. and Surg. Journ.*, Feb. 1, 1883.

Cysticercus Cerebri Multiplex in a One Year old Child.—O. Soltmann, *Breslauer ärztliche Zeitscht.*, 1882, No. 20.

Perforation of the Intestine by Round Worms.—Marcus, *Deutsche Archiv f. Klin. Med.*, Bd. xxix.

OCCASIONAL PERISCOPE OF SURGERY AND SURGICAL PATHOLOGY.

TRACHEOTOMY.—Dr M. H. Richardson, in a paper read before the Boston Society for Medical Observation, 16th November 1882, reports three cases of successful tracheotomy in diphtheria, and takes the opportunity of discussing the operation in the light of his own experience and that of others. He arrives at the following conclusions:—(1.) The point of election is just below the cricoid isthmus (*sic*). (2.) The isthmus of the thyroid, if recognised, should be pushed down, the cervical fascia of the median line having first been incised, and the trachea exposed by carefully separating the parts with a director; or (3.) The thyroid isthmus may be entirely disregarded, and the parts freely incised, in which case all hæmorrhage should be checked before opening the trachea. (4.) Deliberation, careful dissection, and a bloodless operation is better than the gain of a few seconds at the expense of hæmorrhage into the trachea. (5.) Ether should be used, except in extreme asphyxia. —*Boston Med. and Surg. Journal*, 14th December 1882.

TRACHEOTOMY IN CROUP. — Professor Dujardin Beaumetz, lecturing at the Hôpital St Antoine, Paris, points out that tracheotomy, being done for a symptom, viz., the asphyxia resulting from the presence of false membranes in the larynx, has not the slightest influence on the march of the diphtheria. It simply enables the patient to live pending the abatement and disappearance of the general affection. Hence the happy results which have been claimed for tracheotomy are in direct relation with the malignity, greater or less, of the diphtheria. When the disease is benign, a good many patients may be saved; when it is grave, the saving of a case will be exceptional. In order to render the results of tracheotomy more favourable, authorities have attempted to formulate with extreme care the indications and contra-indications of the operation. Professor Beaumetz considers that, in spite of the numerous attempts which have been made in this direction, we have no positive data forbidding tracheotomy. Whenever croup manifests phenomena of asphyxia, he believes that the operation should be done. There are really no contra-indications, for the most serious cases, where all the contra-indications seem grouped together, may get well. He has seen children recover after the operation who were affected with both nasal and bronchial diphtheria, and the latter to such an extent as to discharge by the tracheal wound false membranes that were perfect casts of the bronchial tubes. It has been said that in the last stage of the disease, and when the child is ready to succumb, it is useless to operate. This, he asserts, is contrary to facts, for the annals of croup are full of observations where tracheotomy has produced a veritable resurrection. In malignant diphtheria the operation is not usually required, for the patient generally dies before false membranes have had time to invade the larynx; and if there are asphyxiating phenomena, they are due to tumefactions of the glands and the dyscrasic condition of the blood, and thus the indication for tracheotomy is wanting. Thus there are no contra-indications, properly speaking: all that we can say is, that the chances for tracheotomy are more or less favourable according to the age of the child, the extent of propagation of the false membranes, the morbid genius of the epidemic, and, finally, the period of the disease when the operation is performed. This last has much to do with the success of the operation. And if it is not well to wait till the last stage of the malady, it is well not to be too hasty, for croup is susceptible of spontaneous recovery. In giving details of the performance of the operation, the Professor objects to the use of the thermo-cautery in children, on the ground that it gives rise to considerable sloughing, which renders the wound large and formidable. It is also likely to excite formidable tracheitis. [Will it do so, unless it be used instead of a bistoury to open the trachea?] The second stage of the operation, or introduction of the cannula, he considers the most difficult part of the operation. This difficulty arises partly from the emotion of the operator, partly from the incessant hawking of the patient, who expels by the tracheal opening blood and pseudomembranous *débris*—in fine, from the tracheal wound itself, which, when it is not made exactly in the median line, is not easily adapted to the introduction of the cannula. It has thus often happened that the cannula has been placed in the peri-tracheal cellular tissue, and it has even been forced into the œsophagus.—*Translation of Lecture from advance sheets in N. Y. Medical Record,* Dec. 23, 1882.

REMOVAL OF BEAN IMPACTED IN RIGHT BRONCHUS.—Dr Nathan Jacobson of Syracuse, N.Y., was called on July 8th, 1882, to see a child, æt. 16 months, about 48 hours after the foreign body had passed into the windpipe. He found the little patient without fever, face pale, lips slightly purple. Excepting that the respiration was hurried, there was at the moment of examination no apparent interference with the breathing. When the child cried it was hoarse. A laryngoscopic examination was made under chloroform (*sic*). The larynx was seen to be congested, the cords reddened; otherwise nothing abnormal was noticeable. Physical examination of the chest showed that the right lung was collapsed. The diagnosis of a foreign body impacted in the right bronchus was at once made. Tracheotomy was performed under chloroform. The trachea was not opened until all hæmorrhage had ceased. The foreign body was seized with Stoerk's tracheal forceps passed into the bronchus, and removed in four pieces. The wound was closed with adhesive straps, and a loosely-knitted scarf thrown round the child's neck. With the exception that the straps gave way and a slight feverish attack occurred, the child did well. The percussion note became clear over both lungs. The wound was closed within five days. Hoarseness continued for about three weeks after.—*New York Medical Record*, 30th Dec. 1882.

GROWTHS IN THE NASAL PASSAGES.—Dr F. H. Bosworth, writing on this subject, says adenoid of the vault of the pharynx, supposed to be so rare, is exceedingly common, and is one of the various, and perhaps the most frequent, of the morbid conditions which give rise to an abnormal discharge from the nose, and hence is obscured and lost sight of under that vague and indefinite term, "nasal catarrh." Microscopic examination proves that these formations are not tumours in the proper sense of the word, but a hyperplasia of the lymph tissue which constitutes the so-called pharyngeal tonsil. A difference between hyperplastic faucial tonsils and pharyngeal tonsils is that in the former the fibrous connective tissue is, as a rule, far more developed than in the latter. The prominent and most troublesome symptom is an excessive discharge of mucus or muco-pus. The source of the discharge is in the hypertrophied glands themselves. Another symptom is the altered character of the voice, which is changed into what Meyer calls the dead voice. In this way "m" and "n" become "eb" and "ed." In order to give rise to this the growth need not be large. In order that the voice should have its full nasal resonance the vault of the pharynx should be quite clear. If but a small growth projects from its wall, it seriously interferes with the sound-waves, which in nasal sounds should have a clear field from the vocal cords to the roof of the nares. If they impinge upon the slight projecting shoulder of a growth located in the pharyngeal vault, they are to an extent smothered, and the whole tone of the voice deadened. It is a very noticeable fact with singers that it is the head register which becomes first impaired in a failing voice, and in many cases it is the head register alone which is weak, the middle and chest notes being taken with ease and in clear voice. This, Dr Bosworth considers, illustrates the truth of what he has long urged in his teaching. The nasal passages are the first to become the seat of catarrhal disease, and the tendency is very marked for this to extend downwards; and furthermore, in the very large majority of instances, so-called chronic laryngitis is but a secondary condition, resulting from disease in the nasal cavities, the laryngitis being a symptom, as it were, of the disease in the parts above. The impairment of hearing, another marked symptom in many cases, he does not think to be due to pressure on the Eustachian tube, as had been supposed by some. Extension of the catarrhal inflammation to the Eustachian tube he believes to be of very rare occurrence. Nasal stenosis is well marked in many cases, and is present where the growth has not attained to an unusual size. This may not be so noticeable during waking hours, but during sleep, when the voluntary muscles of respiration are not brought into play, it is more prominent, and the patient sleeps with the mouth open. The diagnosis is best made by means of the rhinoscopic mirror, even in young children (from seven to eight years of age). Digital exploration, insisted on by Meyer and Loewenberg, is not essential, and in many cases very disagreeable to the patient. The treatment consists in the removal of the growths if causing marked symptoms. [Many of the cases tend to get well about the time of puberty, and thus interference is not so often called for.] This, Dr Bosworth holds, is best done by means of a modified Jarvis's snare ecraseur, the wire of which is passed behind the palate and over the tumour towards its base, when it is tightened and the growth severed. The galvano-cautery, which is recommended by Voltolini, Michel, and Loewenberg, is strongly condemned on account of the tedious nature of the process and the inflammatory reaction, besides the danger of the heated wire ininjuring healthy parts. Passing to consider nasal polypi, Dr Bosworth states he has never met with one in the naso-pharynx. They are myxomatous tumours, and grow usually from the middle turbinated bone, but occasionally from the lower. In two instances he met with them attached to the septum. The most prominent symptom is blocking up of the nasal passage with profuse watery discharges. Prolonged, and oftentimes distressing, attacks of sneezing are very marked in the early stage of the development of these growths, and hence the occurrence of these should always excite suspicion. Spasmodic asthma he is disposed to think of more frequent occurrence than is generally supposed. The treatment, like that of adenoid of the pharyngeal vault, consists in their total extirpation. This, he believes, is best done by means of an instrument which is a combination of the Jarvis and Wilde snares. The forceps are condemned as barbarous, harsh, and unsurgical.—*N. Y. Medical Record*, 13th Jan. 1883.

ŒSOPHAGITIS AS A DISEASE OF INFANCY.—Dr Brush, of New York Infant Asylum, describes two fatal cases of this affection, the ignoring of which in the ordinary text-books is, he says, very remarkable, when we go back to Billard *On Diseases of Infants*, a work written in 1828. This close and accurate observer cites five cases in infants where the autopsy revealed inflammatory disease of the œsophagus as a cause of death. He states that it is rare in adults, but "less rare in young infants; the reason of which is, that this organ is almost always the seat of congestion to a greater or less extent. On this account it is more disposed to disorganization and inflammation. When inflammation exhibits no other sign than redness, it will be extremely difficult to distinguish it from the habitual congestion of the œsophagus; but when with this redness there are also present lesions, or some of the products of phlegmasia, no doubt ought to exist that the membrane of the œsophagus is then inflamed. Thus the symptoms which during life accompany the development of these lesions ought to be considered as proper to œsophagitis, and serve to settle the diagnosis of the disease." Dr J. Lewis Smith considers the affection most common in infants under three or four months who are deprived of the breast-milk, and are given a diet which is with difficulty digested, and perhaps taken too hot or too cold. He has discovered it chiefly at the autopsies of young bottle-fed infants whose symptoms indicated disease or derangement of the digestive functions. He also says the symptoms are not well pronounced. Dr Brush believes that those which are important for the diagnosis are, first, an antipathy to food, and when food is taken lachrymation takes place. This is a point to which attention has not been previously drawn; but when we remember that the ingestion of irritating substances produces tears in the eyes of the adult, we can readily understand that any irritation in the œsophagus may produce them also in the case of an infant. Secondly, there is the characteristic vomiting; that is, the food taken into the stomach is returned almost immediately, and quite unchanged. This vomiting differs from that caused by gastro-intestinal irritation by being apparently unaccompanied with nausea, and it differs from the vomiting due to cerebral irritation by being not so powerfully ejaculated. The first of Dr Brush's cases occurred in a child eleven months old. Diarrhœa and vomiting were the chief symptoms. An attempt was made to feed it *per rectum*, but without avail. The vomiting continued up to within an hour or two of death. The autopsy revealed both lungs considerably collapsed; the œsophagus dull vermilion colour throughout its entire length, presenting the appearance of the fauces when the diphtheritic membrane is torn off; at the junction of its mucous membrane with that of the stomach there was a white irregular fringe which hung into the stomach, in appearance being exfoliating mucous membrane; the stomach was small and puckered up, forming deep rugæ, some of which on the top had long lines of recent inflammation. These inflammatory stripes were few in number and not intense. No other lesions of this organ could be discovered. The duodenum was easily torn, the entire digestive tract below the stomach almost bloodless, consequently presenting a white appearance, except a few inches above the sigmoid flexure, where it was slightly inflamed, and containing the food which had been thrown there a few hours before death. No other prominent lesions were found. The second case was a child 7 months old, bottle-fed, and not well nourished. In addition to the symptoms described, conjunctivitis was present. Autopsy was made eight hours after death. Pleural cavity on right side contained about two ounces of food and blood mixed, the odour of food being quite perceptible. The lung, at its approximation to the posterior mediastinum, was the seat of recent ulceration—that is, there was a soft ashy-gray spot about half an inch in diameter fading away into the bright-coloured lung. The bronchi were plugged with food and mucus, which had found its way through the trachea, as there were no lesions in the tubes. This lung was collapsed in large patches. Left lung also considerably collapsed, but pleural cavity clear and normal. Two inches above the diaphragm, opposite the long ulcer, is a small opening through the mediastinal walls and into the œsophagus. Looking at it from this cavity, it looks like a cut across the tube. On removing the tube it was found lacerated about half-way across its diameter, just within the lower half of its length. Its internal surface was pale, and covered with soft catarrhal-like mucus. The stomach was adherent to the spleen by strong fibrous bands, and contained some food. There were three invaginated portions of the intestines, none of which appeared to have existed many hours before death. A case almost exactly parallel to this was reported to the London Pathological Society by Mr Stanley Boyd. The rupture in his case took place in a child 4 months old, and he stated that there was no food in the pleural cavity. It seems to have been a settled question some time ago that these ruptures of the œsophagus are due to post-mortem digestion. This seems untenable when we recollect that these children in whom the ruptures take place are in a feeble condition, and the evidence that the peptonic action of the stomach is suspended is proved by the unchanged condition of the food which is returned from the stomach. We can hardly suppose that a stomach that will not coagulate milk would have the power to digest an œsophagus.—*N. Y. Medical Record*, 13th Jan. 1883.

Part Fifth.

MEDICAL NEWS.

Royal College of Physicians, Edinburgh.—The following gentlemen passed their final examination for the qualification in Medicine in January 1883, and were admitted L.R.C.P. Edin. :—Henry Marshall Fenwick, Newcastle-on-Tyne; John Fairley M'Eachran, Partick; Victor Eugene Sutcliffe, Scarboro'; John Edward Dunn, Preston, Lancashire; Bernard Joseph Dillon, Dublin.

Royal Colleges of Physicians and Surgeons, Edinburgh.—The following gentlemen passed their final examination for the double qualification in Medicine and Surgery at the sittings held in the month of February 1883, and were admitted L.R.C.P. Ed. and L.R.C.S. Ed. :—John Gormley, Liverpool; Alexander Millar Adams, Garvagh, Co. Derry; Challoner Clay, Salisbury, Wilts; George Clarke, Belfast; Ambrosio Feliciano Fernandes, Edinburgh; John Adolph Albrecht, Manchester; Glenville St le Clair Van Rooyen, Edinburgh; Robert James Foulis, Prudhoe-on-Tyne; William Tweedie, Annaclone, Rathfriland, Co. Down; Joseph Dunlop, Bushmills, Co. Antrim; Edward Harvey Bird Nickoll, S. Wales; Samuel Robert Rogers, Canada; William Hector Macdonald, Edinburgh; James Unsworth Green, London; Adam Richard Stacpoole, London; Walter Mount, London; James Henry Curtis, Cork; Eliot William Welchman, Lichfield; Rowland Owen, Liverpool; David Robert Paul, Edinburgh; Murdoch Mackenzie, Edinburgh; Kenneth J. Campbell, Dublin; Robert Currie, Co. Antrim; James Smyth, Co. Limerick; Austin Concannon, Dublin; Kemin St John Corsham, Wilts; William John Harvey Fletcher, Staffordshire; William Samuel Irwin, Galway; James Alister, Co. Antrim; Robert D. Givin, Co. Derry; Herbert Geo. Harold Clarkson, Leeds; William S. Flett, Leith. Surgeons only :—Frederick Lewies Nicholls, Wainfleet, Lincolnshire; Thomas O'Kelly, Chipping Norton, Oxon.

OBITUARY.

JAMES SCARTH COMBE, M.D., F.R.C.S.E.

Another veteran medical practitioner has passed from among us, whose erect, gentlemanly figure and handsome, genial countenance must have been well known to most citizens of Edinburgh. For some years Dr Combe had virtually retired from active life, but up till this winter he might often be seen walking leisurely along Queen Street, from his own house 36 York Place, to pay his almost daily visit to his widowed daughter in Glenfinlas Street. About twenty years ago she was united in marriage to the late Dr James Simson, another well-known member of our profession, who was slightly senior to her father. She was left a few years ago with a son and daughter.

Dr Combe was born in Leith on the 5th of January 1796, and so was in his 87th year when he died. He was connected by blood, although not very closely, with George and Andrew Combe the eminent phrenologists. Having entered upon the study of medicine, he obtained his diploma as surgeon in 1814, while barely 19 years of age, a thing possible in those days, and in the following year prepared to take his degree at the University. He told the writer of this that he was undergoing one of his examinations—probably in the house of Dr Andrew Duncan, senior, who then resided in Adam Square—when the castle guns announced the crowning victory over Napoleon at Waterloo. This cessation of war put an end to a purpose which he had formed of becoming a military surgeon. However, still being very young, he went to India for a short time, and extended his professional knowledge very considerably, which afterwards stood much in his favour on his return home. He practised with marked success in his native town until 1847, when circumstances induced him to remove to Edinburgh. He had become a Fellow of the Royal College of Surgeons in 1823, and continued to serve the corporation in various ways until he filled the presidential chair in 1851–52. He acted as an examiner for many years, and latterly as an assessor of the examining board. Dr Combe pursued the even tenor of his way, during all these years, as a respected and busy practitioner, until the pressure of advancing years entitled him to the *otium cum dignitate*. He was an honourable man, whom his brethren could safely confide in, and all who knew him felt that his quiet exterior and reasonable opinions, which always tended to what was liberal and hopeful, were associated with a latent mental potentiality, which had never thoroughly asserted itself. On several occasions, of late years, he had suffered from inflammatory affections of the chest, and we understand that one of these carried him off after an illness of a few days. His partner in life died a few years ago—an event which he felt very severely. He has left behind him, besides Mrs Simson, two sons, the elder of whom is Dr Matthew Combe, Surgeon-Major in the Royal Artillery.

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Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Dislocation of the Wrist-Joint, and Fracture of the Lower End of the Radius.* A Clinical Lecture. By ROBERT JOHN GARDEN, M.D., C.M., Surgeon to and Lecturer on Clinical Surgery in the Aberdeen Royal Infirmary, etc.

INJURIES to any of the joints or their immediate neighbourhood have always presented features of peculiar interest to the surgeon. Complex in their constitution, joints are liable to many injuries which are often very obscure. Their diagnosis is frequently a matter of great difficulty, and, even when correctly solved, the results following their treatment may be far from satisfactory. These injuries should, therefore, command your closest attention and most careful study. There is no class of cases within the whole range of surgery which affords so many rocks on which the vessel of the surgeon's credit may strike and sustain injury more or less severe, amounting in some cases to something like complete shipwreck. No class of cases supplies more abundant material wherewith quacks may practise their arts and play upon the credulity of their victims. When, then, you have to deal with a case of severe injury to a joint or its immediate neighbourhood, you should not only bestow the greatest care upon its diagnosis and management, but you should always give the patient timely warning of the possible long-continued or permanent impairment of the functions of the joint which may ensue even after the most careful treatment. No joint has been so long misunderstood as the wrist-joint, especially in regard to a fracture in its neighbourhood which I shall afterwards discuss.

I propose, in the present lecture, to describe two cases—the one of injury to the wrist-joint—dislocation; the other of injury to the end of the bone, the radius, in its neighbourhood—fracture; the former interesting mainly on account of its rarity, the latter chiefly by reason of its mode of production, but both important as throwing light on some questions which have arisen in connexion with the mechanism of these lesions.

The first case I shall relate is that of the man I now show you. The following are the notes of the case:—

J. M., aged 44, was admitted into the Infirmary on 8th November 1882. He is a tall, strong-looking, big and firm-boned man, suffering from an injury to his right wrist. The history was as follows:—On the previous day he was driving in a Whitechapel cart, and had almost arrived at his house. He rose from his seat, and at that moment the horse suddenly and unexpectedly stood still, so that he was projected forwards and thrown violently to the ground from the cart. He lighted on the palm of his right hand, which received the weight of his body. He was seen by Dr Smith, Alford, four hours after receipt of the injury, and ordered to the Aberdeen Infirmary, which he reached the day after the accident.

On examination it was found that there was a wound running across the front of the wrist, and through it, on the outer side, the end of the radius was projecting to the extent of about one and a half inches. When further examined under chloroform, the end of the radius was found intact, and it was lying in front of the carpal bones, the posterior aspect of the lower end of the radius being separated from the anterior surface of the carpal bones by intervening skin.

The ligaments connecting the lower end of the radius with the carpus and ulna were ruptured, and the radial vessels had been torn across. In short, there was compound dislocation of the lower end of the radius forwards on the carpus. It was found impossible to reduce the bone without incising the skin which lay below it. Accordingly an incision was made at right angles to the wound caused by the end of the radius, and by stretching, flexing, and pronating the hand reduction was very readily accomplished. The wound was stitched and dressed with antiseptic dressing.

For the first two days matters went well with the man. Beyond a rise of temperature (102° F.) there was no other symptom of moment noticeable. After that severe pain was felt, and signs of inflammation appeared. For the next two days these increased, and an abscess formed on the back of the forearm. This was opened. General symptoms indicating a septic condition of the blood now came on. These were high delirium, nervous tremors, foul breath, dirty tongue, diarrhœa, perspiration, along with elevated temperature. Hydrate of chloral and a powder containing cinchona, rhubarb, and soda were ordered. Improvement gradually took place, and the man is now doing well. There remains, however, a considerable swelling of the hand and stiffness of the tendons and wrist-joint.

The second case I shall relate is that of a young married woman who was sent to the Infirmary for advice last summer by Dr M'Kenzie Booth. She gave the following history:—On the day previous to being seen she was carrying a heavy child on her left arm in the usual way. The child gave an unlooked-for wriggle, and nearly slipped from her grasp. She saved it, however, with her hand, which the child fell upon and drove violently back.

She experienced a sudden, sharp, severe pain near the wrist, on the outer side of the forearm, and a sensation as if something had given way. On examination there were found the characteristic symptoms of fracture of the lower end of the radius near the wrist-joint. These were swelling, pain, and deformity. The last was best seen on looking at the radial aspect of the forearm, where there was an abnormal projection on the dorsal aspect, caused by the wrist and the lower fragment, and a little above this, on the palmar aspect, a projection due to the lower end of the upper fragment of the radius. Severe pain was produced by seizing the wrist and forearm and attempting to reduce the displacement. Crepitation was not elicited.

Now, gentlemen, as to the first case. This was an instance of indubitable dislocation forwards of the lower end of the radius, —that is, of the wrist-joint,—for the ulna does not, properly speaking, enter into the composition of the wrist-joint, and it may or may not accompany the radius in its displacements, according as the ligaments joining the two bones remain intact or are torn. The mechanism of the injury was quite clear. The man fell with great force on the palm of his hand, striking probably not far from the roots of the fingers. The hand was forcibly thrown back, while the lower end of the radius was projected forwards. Great strain was thus put on the anterior ligament, which is inserted above into the anterior edge of the lower end of the radius and the ulna (this latter being a tolerably distinct band), and below into the scaphoid, semilunar, and cuneiform bones. *Very strong although this ligament is, it gave way.* This allowed the radius to escape, or rather to cut its way through the various tissues in front. Now this is a very rare injury, and we shall see the reason for this being so afterwards. As is well known, Dupuytren, a surgeon of great experience and eminence, seriously doubted the possibility of its occurrence. I say this notwithstanding what Hamilton, one of our greatest living authorities on fractures and dislocation, says when he remarks, "Yet it has been the practice of nearly all who have made any reference to his (*i.e.*, Dupuytren's) opinions, to speak of them lightly, and not a few have falsely represented him as saying that such a dislocation was impossible," for I find Dupuytren, in Article viii. of his *Leçons Orales de Clinique Chirurgicale*, writing thus:—"I have said that I have never seen dislocation of the wrist, and that, on the contrary, fractures of the radius are very common;" and again, further on in the same article, he says, "No external force can separate the radius from the carpus so as to produce dislocation." Dupuytren seems to have modified this afterwards, and to have admitted its possible though extremely rare occurrence. His reason for this rarity appears to me very unsatisfactory. It is this: "The impossibility or extreme rarity of dislocation forwards or backwards is caused by the obstacles afforded by the tendons of the flexors and extensors." Dupuytren, however, did great service by pointing out the extreme rarity of dislocation. From the time of Hippocrates, who described the statutory, though, I fear, theoretical four,—there being but four likely directions, backwards, forwards, outwards, inwards,—dislocation was believed by surgeons to be very common; but these surgeons, true to the spirit of their own non-critical age, were swayed by tradition and overawed by authority, instead of being guided by the evidence of their own senses and the uninfluenced dictates of their own reason. It is, to say the least of it, decidedly amusing, in reading the older writers on medicine and surgery, to find the undue weight they give to the *dicta* of, to them, still older writers, such as Hippocrates, Paracelsus, Galen, instead of actually observing nature for themselves and giving their own experience, as Dupuytren did when he said, "I myself have seen so or so," or "I have not seen so or so," as the case may be. The reason why mistakes were so often made in regard to the wrist-joint was simply this, that surgeons, unable, apparently, to throw off the thraldom of authority, persisted in regarding dislocation as very common, and were thus very slow in learning to distinguish between dislocation of the wrist and fracture in its immediate neighbourhood. Good surgeons made the mistake between the two. Roux, for instance, in a case diagnosed dislocation when it was fracture; and Albert relates that Pelletan and Dupuytren stood by a corpse which had been the subject of injury to the wrist, which injury the former had diagnosed to be dislocation and the latter declared to be fracture. Pelletan maintained till the last cut of the scalpel that he was right, and it was only when the bones were fairly exposed and disclosed a fracture of the lower end of the radius that he had to acknowledge the justice of Dupuytren's contention.

I have been able to discover very few indubitable cases of dislocation of the wrist. According to Albert, in 1834 Malgaigne could only point to three. Up to six years ago Tillmann had managed to collect twenty-four. Of these, however, only two or three were verified post-mortem or were compound. Von Dumreicher, Dittel, and Albert each declares he has seen a case. Hamilton mentions three of what he considers indubitable cases, two backwards and one forwards. One of these was, like mine, compound, and, curiously enough, was, like my case, followed by grave consequences for his patient, who died of gangrene following phlegmonous erysipelas. His other cases, I must say, I have some difficulty in understanding, as a dislocation of the carpus backwards was produced by a fall on the dorsal aspect of the wrist and hand. His third case showed the extraordinary phenomenon of, in the same patient, the same force applied to the palms of both hands producing in one a result directly opposite to that in the other. The left carpus was found to be dislocated *backwards*, the right carpus forwards. In regard to my case I shall only meantime make this further remark. I was so much struck with the amount of tearing to the anterior coverings of the forearm by this dislocation forwards (the skin was slit right across), that the question occurred to me as to whether it were possible for a *simple* dislocation forwards of the very large, sharply-edged lower end of the radius to take place. Is rupture of the coverings, *i.e.*, becoming compound, a necessary consequence of the lower end of the radius being placed fairly in front of the carpus? It is curious that what appears to me to be Hamilton's only indubitable case of dislocation of the lower end of the radius forwards was compound. May not the described dislocations be instances of transverse fracture near the end of the radius, when, as occasionally happens, the lower fragment is displaced fairly behind the lower end of the upper fragment?

Now as to the second case. This, to my mind, is an unusually interesting case. We have here an indubitable instance of fracture, as evidenced clearly by the symptoms of the lower end of the radius. Now, I have no intention of discussing whose fracture it is. I have a most deep-seated prejudice, if prejudice it can be called when the position is supported by reason, against calling fractures by surgeons' names. However interesting historically, and just to the memory of great surgeons, to remember their work, it should still be kept in view that for ordinary practical purposes it is always desirable in naming a thing, and especially a condition such as a fracture, to have the name descriptive—*i.e.*, to have the mere naming of such condition give some information. If I am told that such and such a fracture of the radius is Colles's fracture, or Dupuytren's, or Smith's, or Rhea Barton's, all the information I get is that the radius may be broken in various ways, or rather at various parts and in various directions; but for all that the *name* indicates the fracture may be at any part of the bone, from one end of it to the other. The fractures referred to should just be called fractures of the lower end of the radius.

In regard to these, then, four questions arise.

1. What is meant by lower end of the radius? Where do you draw the line between that and the shaft?
2. What fracture most commonly occurs there? what is the mechanism of its production? and what displacement is produced?
3. What are its symptoms?
4. What treatment is indicated?

1. What is meant by lower end of the radius, and where do you draw the line between that and the shaft? By lower end of the radius I mean the part of the radius extending not more than 1½ inches above its carpal facettes. Now, why do I draw this apparently arbitrary line? This line has been determined from pathological rather than anatomical data. It is a surgical rather than an anatomical mapping of the bone. I draw the line because this portion of the bone is subject to fracture which has a well-defined mechanism. It is, I believe, a clinical fact that this part

of the radius, and this part alone, is the subject of fracture due to force directed against the palm of the hand proper.

2. Now for my second question. What fracture most commonly occurs there? what is the mechanism of its production? and what displacement is produced? To this I reply, that *the most common fracture is a fracture transverse from before backwards and from without inwards, and usually about three-quarters of an inch from the end of the bone.* It is not my purpose at present to enter into possible or rare conditions. Now, here we have a fracture taking place at a thick part of the bone, and very near its extremity. How is this? I must say that for long I was at a loss to understand this, and in my inquiries after the exact mechanism I got but little help from English writers. Erichsen, for instance, on its mechanism has the following:—"The mode in which the accident occurs, and the position of the hand at the moment of its coming into contact with the ground, will, I think, materially influence the kind of fracture that occurs, as well as the consequent amount and character of the resulting deformity. When a person falls on his hands outstretched to save him, the limb is usually not completely pronated. It is half way between complete pronation and the mid-state between pronation and supination. Complete pronation is a forcible muscular effort which is not carried to the full extent at the moment of danger. The hand is, in fact, three-quarters pronated, not wholly so. The effect of this position is that the ulnar border is slightly directed downwards and first comes into contact with the ground, and the fracturing force is directed in a line that is somewhat outwards or towards the radial side, as well as backwards and upwards. Hence the hand is driven from the ulna towards the radius, causing the strongly-marked projection of the ulna; and, the radius being broken across at its lower end, the fragment, carrying with it the carpus and hand, is driven backwards, upwards, and slightly outwards, causing the double deformity of a projection at the back of the forearm immediately above the carpus and the concavity along the outer side of the radius." Now, this appears to me to beg the whole question. He says, "The radius being broken across;" but how? There is nothing in this to indicate clearly why fracture *so near the end of the radius* takes place. It only gives some explanation of why the fractured fragment assumes its ultimate position.

Here, again, is what a very recent writer, M'Donnel of Dublin, says:—"The fracture is usually the result of a fall on the palm of the hand, and is liable to happen whenever a person, in the act of falling forwards, throws out before him his arms and hands in a state of extension, which he does, as it were, instinctively, to save the head and face from injury. Under these circumstances (if luxation of the bones of the forearm at the elbow-joint does not occur), from the influence, upon the one part, of the weight of the body and impulse of the fall, and, upon the other, of the resistance given to the hand by the ground, the radius, which receives almost the whole force of the shock, breaks at its weakest part,—that is, its lower extremity,—for it is here that the cellular structure is most abundant and the compact tissue thinnest; the carpus escapes uninjured, owing to the number of its articulations, which, as it were, divide and decompose the shock, and it is further protected by the palmar fascia and by the numerous tendons which traverse the front of the carpus." Here M'Donnel commits himself to a theory of production more definite than Mr Erichsen, but a theory which, as we shall afterwards see, is open to very serious objection.

Hamilton, although he devotes a long chapter, in his classical work on *Dislocations and Fractures*, to this fracture, does not discuss this point.

Chiene of Edinburgh, in his *Lectures on Surgical Anatomy*, although he describes the line of fracture and displacements correctly, seems to me to miss the exact point. "When a person, in falling, puts out his hand to save himself, at the moment the hand reaches the ground the force is received principally by the ball of the thumb and passes into the carpus, and thence into the lower end of the radius. If, at the moment of impact, the angle between the axis of the forearm and ground is less than 60°, the line representing the direction of the force passes upwards in front of the axis of the forearm; the whole shock is therefore borne by the lower end of the radius, which is broken off, and the force being continued, the lower fragment is driven backwards. When, at the moment of impaction, the angle is greater than 60°, the line of the force, instead of passing in front of the axis of the arm, passes up the arm, and the usual result is either a severe sprain of the wrist or dislocation of the bones of the forearm backwards at the elbow-joint." With this latter statement I am inclined to agree, only I think that Chiene should have given, besides sprain and elbow-joint dislocation, fracture of both bones of the forearm or of the shaft of the radius; and when any of these lesions does take place, the fall is on the wrist proper rather than the palm of the hand proper. The reasoning of the former statement I must say I cannot follow. I might have understood it had there been no motion at the wrist-joint, instead of there being, as there is, very considerable mobility. When the hand strikes the ground, it is not the end of the radius, but the carpal or metacarpal bones with their coverings which impinge on the surface; and I question whether it be possible, under the conditions of mobility, and on the mechanical principles of Chiene, to apply through the flexible carpus force sufficient to produce the lesion under review. If the hand impinge on the ground at an angle of less than 60°, the tendency will be for it to glide along the ground. The lower end of the radius never actually reaches the ground, much less can it get *fixed* so as to produce fracture. But granted the possibility of this, would the fracture be, as Chiene admits it is, "directly transverse"?

The fallacy in the attempts of these writers appears to me to lie here—that they assume that the break is produced by force acting on both ends of the bone, and in the direction, more or less, of its long axis. This comes out most clearly in M'Donnel's explanation, where he gives the alternative of dislocation at the elbow if the radius do not snap near the wrist. Now the question is, Can a fall on the hand, when the radius has been so fixed that a force acting along its long axis comes into play, produce our fracture? Certainly not. This will produce either fracture of both bones of the forearm, or of the radius alone at some part of its shaft. Of the two former lesions produced in this way I have recently had experience. In the one case a boy fell from a considerable height and fractured both bones of the forearm, but *five or six inches above* the wrist; in the other, a child fell from a chair and fractured the radius alone *near its upper end*. These fractures occur almost exclusively in young people.

If, then, all these explanations be fallacious, what is the solution of the difficulty? A glance at the history of this, in some respects, most interesting of fractures will best answer this question. It was, as already stated, long misunderstood, and regarded as a dislocation. (It is not long, as some of you may remember, since a case of this kind was sent up for treatment here by a practitioner in town as dislocation of the wrist.) Petit and Poiteau, especially the latter, in the last century, recognised its character as a fracture, and correctly described its clinical features. Their teaching, however, seems to have been forgotten, and it continued to be looked upon as a dislocation till Dupuytren's extreme scepticism as to the possibility, and his decided declaration of the extreme rarity, of dislocation of the wrist. In the long lecture in his *Leçons Orales*, published in 1839, already quoted from, Dupuytren, while describing the anatomical lesion, does not clearly indicate its mechanism. Three years after, in the *Archives Générales de Médecine* for 1842, Voillemier has a long and very interesting article devoted to the same subject. In this we have the first clear beam of light thrown on the matter. He relates the following very instructive case:—"A young man of 25 was received into the clinical hospital under the care of M. Larrey. The account he gave was that a very strong companion had, in fun, forcibly bent back his hand (wrist) (en jouant flecti fortement le poiquet). He was not sensible of having felt a crack, because, as he remarked, he experienced at the moment very severe pain. The limb hardly presented any deformity,[1] but there was a noticeable uniform swelling round about the wrist-joint. The patient pointed out the seat of the pain with great precision as about a centimetre above the joint, and extending transversely across the outer half of the forearm only. Forcible flexion showed that the seat of the pain was not in the joint, but in the situation already indicated in the radius. It was impossible to obtain crepitation. Mobility was obscure, but still, we believe, appreciable. In spite of the ordinary treatment of the sprain (des entorses), the man could not use his hand at the end of twenty days. I believe," continues Voillemier, "that in this case the tearing (arrachement) had produced the fracture, but that in the majority of cases this only aids other causes. In complete fracture of the radius following a fall on the palm of the hand there is a stretching more or less great of the ligaments. Now, there is nothing more easy to understand than that when this stretching is carried too far it could either produce a rupture of certain ligaments or a tearing off of a larger or smaller portion of the radius."

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[1] In the fracture under review it should be noted that there is often wonderfully little deformity. From experiments on the dead body I have found that the bone may tear across while the periosteum on the dorsal aspect of the radius remains untorn. In this case what deformity there is is due to rotation of the fragment.

The key-note has here been struck as to the *raison d'être* of this fracture; and it is in this connexion that the case I have related acquires interest and importance. We have here as clinical experience two cases where this fracture was produced, not by a fall at all, but by a simple hyperextension of the hand. That this could be so is a very noteworthy fact, and the story of the fracture is now soon told. Nelaton and Linhart both produced the fracture in the dead body—the one by fixing the palm of the hand and applying force to the upper ends of the bones of the forearm, the other by reversing the process. Attention was thus drawn to the anterior ligament. Lecomte (*Archives Générales de Médecine,* 1860-61) gives an account of experiments carried on on a more extensive scale. He found that he could readily produce the fracture by hyperextension, but never if he had previously divided the anterior ligament of the wrist. I have repeated so far these experiments, and show you the results. Here are three specimens of fracture of the lower end of the radius, and in each you will see transverse fracture about ¾ inch from the lower end. Now the fracture in each was produced in the dead body by fixing the elbow on the table, taking hold of the hand near the roots of the fingers, and producing hyperextension with a sudden jerk. (The diagrams[1] 1, 2, 3, 4 show the seat of fracture.) The explanation, then, is clear. The fracture is produced by a strain on the anterior ligament, and instead of this giving way the bone tears across. It is what the Germans call very expressively a "Rissfractur," or fracture by tearing. This explains why the fracture is transverse, and at the same time it makes it clear why dislocation is so rare. The bone gives rather than the ligament. When, however, the ligament tears, as it occasionally does, then we have, as in our first case, dislocation. Dupuytren's ascription of the rarity of luxation to the retaining power of the tendons is obviously incorrect, for these, to allow of muscular motion, are movable cords, and, moreover, the bone, as in my case of dislocation, may slip out between them.

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[1] For the diagrams drawn from my specimens I am indebted to my former dresser, Mr J. Turner.

Such is the mechanism. What are the displacements? They are mainly two. Taking the lower fragment as the part displaced, these are:—

a. Rotation on its transverse axis, so that the lower facetted surface of the radius is directed somewhat upwards (backwards), when the forearm is held horizontal, and the posterior edge of the lower end of the bone forms the most prominent part of the abnormal dorsal eminence. This is shown well in my specimens (see Diagram, No. 4).

b. Backwards. This does not, as a rule, take place to any great degree. The posterior compact part of the lower fragment escapes from that of the upper, so that the latter becomes inserted in front of the former, giving rise to the condition known as *penetration*, or, if it be carried to a great degree, which I believe rarely happens, *impaction.* As to a lateral displacement towards the radial side, or what Chiene more definitely calls "rotation through the arc of a circle, the centre of which is situated at the ulnar attachment of the triangular ligament, the radius of the circle being a line from the ulnar attachment of the triangular ligament to the tip of the styloid process of the radius," this may or may not be marked. It is no essential feature of the fracture. If it occur, then, it is caused by what I may call a secondary or consecutive exertion of force, and it is thus in the same position as comminution of the lower fragment, which sometimes takes place. Although this, the true displacement of the lower fragment relatively to the upper, is now admitted by surgeons, it may be interesting to state that in the latest edition of Sir Astley Cooper's work on fractures and dislocations this fracture is wrongly figured and described. This is what he says:—"This fracture in the living subject is accompanied with some degree of projection of the ulna at the back of the wrist; and when the patient holds his forearm horizontally in a state of pronation, the back of the wrist appears deeply bent, and there is an evident projection of the radius and ulna on its dorsal surface, and of the carpus on the palmar, that has no doubt led to the supposition that a dislocation existed." This from Sir Astley Cooper!

3. Now, as to my third question, What are the signs? They are, pain and swelling round the wrist, limitation to motion, deformity. The pain is best elicited by putting the thumb of the right hand over the wrist on the dorsal aspect, and the finger of the left hand on the palmar aspect a little further up, and pressing in opposite directions. As to deformity, this is best seen by regarding the radial aspect of the horizontally held forearm, the hand being pronated. There is then seen a prominence on the dorsal aspect, formed by the lower fragment and the carpus. Immediately above this there is a depression, and opposite this depression, on the palmar aspect, is a prominence formed by the lower end of the upper fragment of the radius. This is what has been very

aptly called the "silver fork" deformity (see Diagram, fig. 4, where the outline of the skin is given). There may or there may not be marked inclination of the hand to the radial side. It is not, according to my observation, an invariable sign. When present it is due, in the great majority of cases, to the hand being held inclined to the radial side (lateral motion at the wrist is normally very free) in order, in some degree, to relieve tension, and it does not necessarily indicate a displacement of the lower fragment of the bone in this direction. If this were so, it would imply that the direction of the fracture is from above downwards and from radial to ulnar side of the bone. Crepitation may not always be elicited.

4. Lastly comes my fourth question, What is the best treatment? The treatment of this fracture is notoriously difficult, and the results have in many cases been far from satisfactory. Very many methods have been suggested for retaining this fracture in position. As it is in medicine when you have a complaint for which the remedies suggested are legion, so it is in surgery when there are many different methods of treating the same lesion, the presumption is that as in the one case no one of them is specific, so in the other no one of them produces perfectly satisfactory results. The difficulty appears to me to be in great measure due to the fact that the lower fragment is so short and attached to the movable wrist, and it is therefore not easy to get a sufficiently firm hold of it.

I shall not enumerate the various plans which have been suggested, but shall content myself with asking, What precise indications, first, for *reduction of deformity*, and, second, for *retention of fragments in proper position*, are afforded by the explanation of the mechanism of fracture just given? First, as to reduction. The displacements, taking the lower fragment, as I have said, are rotation on its transverse axis, displacement so far backwards, and penetration into it of the lower end of the upper fragment. These take place, as regards time, very much in the order just given. The reduction, then, should proceed in the reverse order. Accordingly there should be traction on the hand and wrist to reduce penetration, pressing the lower fragment forwards or towards the palmar aspect, and the lower end of the upper fragment backwards or towards the dorsal aspect, to reduce the backward displacement of the lower fragment, and flexion of the wrist to reduce as far as possible the rotation of that fragment. This can best be done by having the patient's forearm placed horizontally midway between pronation and supination. Suppose the patient's left arm to be injured, the surgeon stands with the palm of the patient's hand towards him. He then seizes the patient's hand with his right hand, holding the wrist-joint and lower fragment between the forefinger and thumb. With the left hand he at the same time lays hold of the forearm, holding the lower end of the upper fragment of the radius between the forefinger and thumb. He now exercises traction on the patient's hand, with the right and left hands pushes the fractured fragments in opposite directions, so that the lower fragment is pressed forwards and flexes the wrist. If it be the patient's right arm, then the surgeon simply changes hands, manipulating the patient's hand, wrist, and lower fragment with his left hand, and the forearm with his right. The deformity is thus as a rule readily reduced.

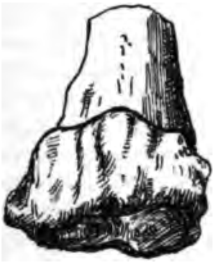
As to retention of the fragments, the plan which I have found most effectual is a long posterior splint extending to the tips of the fingers, and a short anterior extending to the lower border of wrist-joint, the hand being kept midway between pronation and supination, or completely supinated. If the splints be of wood, then it is well to have a thick pad of lint on the end of the posterior splint opposite the back of the hand, so as to keep the wrist flexed. If the splints be of mouldable material, as gutta-percha or poroplastic, which is probably preferable, the posterior splint can then readily be moulded into the flexed position of the wrist. Pads should also be placed opposite the abnormal prominences on the dorsal and palmar aspects respectively—that is, the dorsal pad opposite the lower fragment, and the palmar pad opposite the lower end of the upper fragment. The whole should be retained by a bandage applied evenly and firmly.

It is of the utmost importance to begin passive motion of the tendons of the fingers as soon as possible, for after this fracture there is a very marked tendency to long-continued tendinous stiffness. Patients should always be warned of this at the beginning of the treatment. Under the plan of treatment indicated the fingers may be moved to some extent almost from the first; after ten days passive motion should be practised systematically and with gradually increasing energy.

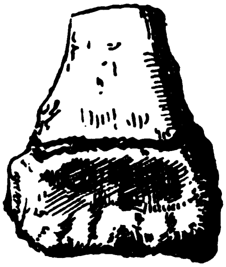
After any plan of treatment, and after the greatest care has been taken, the result, although in the larger proportion of cases, perhaps, it be satisfactory enough, in a certain number is anything but perfect. Do what you will, deformity may remain, and the stiffness of the wrist and fingers, and pain on attempting to flex them, may last for many months, if they be not permanent. If care be taken, the surgeon may, as a rule, congratulate himself on the result of his treatment, but it is probably within the experience of every surgeon to have come across a perverse specimen of the human race, with a perverse wrist and very perverse tendons—a specimen the sight of whose face, when he is met in the street perhaps months after the time of treatment has ended by the surgeon who had the misfortune to have the care of him, produces in that disciple of Æsculapius, somehow or other, a sudden impulse to follow the example of the Pharisee of old, and to pass by on the other side.

EXPLANATION OF DIAGRAMS.

These represent fracture of the lower end of the radius produced in the dead body by hyperextension of the wrist.



No. 1.



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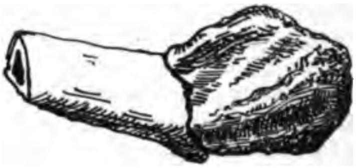
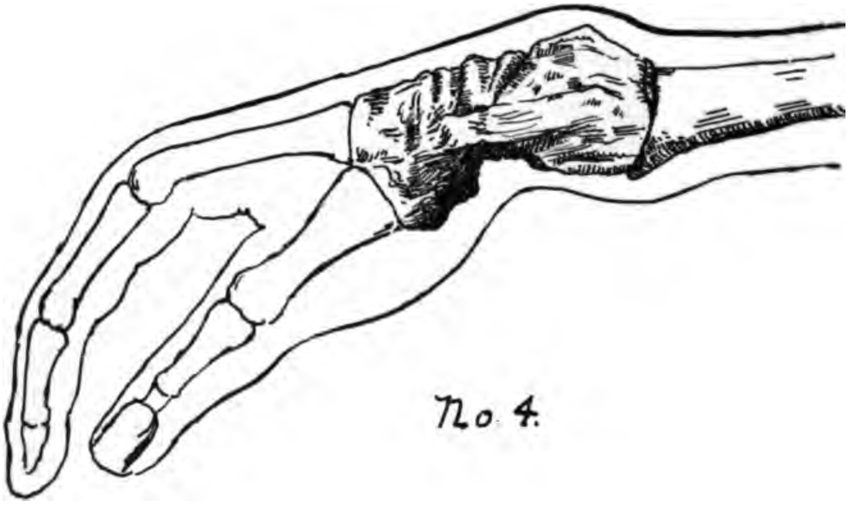


No. 3.



No. 4.

Figures 1 and 2 show the line of fracture—1, looked at from the posterior or dorsal; 2, from the anterior or palmar aspect of the bone.

Figure 3 shows the displacement looked at from the radial side. The rotation and penetration make it appear as if there were some degree of obliquity from above downwards and from behind forwards.

Figure 4 shows the same view with the wrist attached and the line of the skin sketched in, showing the abnormal dorsal and palmar prominences. In this and the former figure there should have been shown a slight interval between the bones on the palmar aspect.

Figures 1, 2, and 3 are from the left, and figure 4 from the right forearm of the same subject.

ARTICLE II.—*The Prophylaxis of Ophthalmia Neonatorum.* By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh, and President of the Edinburgh Obstetrical Society.

(*Communicated to the Edinburgh Obstetrical Society, 14th February* 1883.)

THE prevention of conjunctivitis in new-born children has not been the subject of much discussion among British authors. On the Continent, however, it has engaged the attention both of ophthalmologists and obstetricians for some years past, and has already become the theme of a pretty extensive literature. I have read the following:—

CRÉDÉ.—" Die Verhütung der Augenentzündung der Neugeborenen," in *Archiv für Gynækologie,* xvii. 50, and xviii. 367, 1881.

ALFRED GRAEFE.—"Ueber caustische und antiseptische Behandlung der Conjunctivalentzündungen mit besonderer Berücksichtigung der Blenorrhœa neonatorum," in *Volkmann's Sammlung Klinischer Vorträge,* No. 192, 1881.

ABEGG.—" Zur Verhütung der Augenentzündung Neugeborener," in *Archiv für Gynækologie,* xvii. 502, 1881.

OLSHAUSEN.—" Zur Prophylaxe der Conjunctivalblenorrhœa Neugeborener," in *Centralblatt für Gynækologie,* v. 33, 1881.

HAUSSMANN.—" Zur prophylactischen Behandlung der während der Geburt eintretenden Infektion der Augen des Kindes," in *Centralblatt für Gynækologie,* v. 76, 1881.

HAUSSMANN.—" Zur Entstehung und Verhütung der Ophthalmia neonatorum," in *Centralblatt für Gynækologie,* v. 204, 1881.

HAUSSMANN.—*Die Bindehautinfection der Neugeborenen,* Stuttgart, 1882.

BAYER.—" Ueber Crédé's Verfahren zur Verhütung der Augenentzündungen bei Neugeborenen," in *Archiv für Gynækologie,* xix. 258, 1882.

FELSENREICH.—" Die Anwendung des Crédé'schen prophylaktischen Verfahrens gegen Ophthalmia neonatorum," in *Archiv für Gynækologie,* xix. 495, 1882.

v. HECKER.—"Ueber Blepharoblenorrhœa neonatorum," in *Archiv für Gynækologie*, xx. 386, 1882.

GALEZOWSKI.—"Des Moyens de conjurer les dangers d'ophthalmie des nouveau-nés," in *Annales de Gynécologie*, xv. 174, 1881.

C. STEDMAN BULL.—"Purulent, Croupous, or Membranous and Diphtheritic Conjunctivitis in Infants," in *New York Medical Journal and Obstetrical Review*, xxxiv. 45, 1881.

The importance of the subject may be gathered from the circumstance recorded by Horner,[1] that at a gathering of the superintendents of blind asylums in Germany and Austria, held in 1876, it was ascertained that, on an average, 33 per cent. of the children admitted into their asylums had become blind from ophthalmia, or, as it is called, blenorrhœa neonatorum. The highest proportion of cases of blindness from this disease was 79 per cent., the lowest 20 per cent. Galezowski states that in 507 cases of this disease in infants he has met with 111 where grave results followed, ending in weakening or in complete loss of vision.

The recent attempts to prevent the occurrence of this mischievous inflammation in the eyes of infants have been founded on the conviction that the disease is due to the introduction of a poison from the genital canals of the mother during the process of parturition. The poison is supposed by Crédé to be of gonorrhœal origin. Professor Alfred Graefe, who calls it an undoubted fact that blenorrhœa neonatorum is exclusively due to contact of the infantile conjunctiva with secretions from the genital mucosæ, alleges even that in the case of healthy women the mucous secretions of the generative tract may take on infective qualities during parturition. In the valuable contribution to the subject, however, of the lamented Professor Hecker, some strong grounds are given for doubting the universal application of this doctrine, to which he might have added this, that when the preventive measures were restricted to the use of vaginal injections to cleanse and disinfect the passages the disease was not fully averted; and it was only when direct applications were made to the eyes of the new-born infants that altogether satisfactory results were obtained.

Apparently the earliest systematic attempt to prevent the occurrence of ophthalmia in a lying-in hospital was made by Dr Abegg in Danzig. His plan consisted simply in washing out the eyes of all the children, immediately after their birth, with pure water, without previous injections into the vagina. Unfortunately, his statistics do not afford us an idea of the frequency with which the mischief showed itself before this measure was adopted; but in the ten years, from 1871 to 1880, during which it was carried out, the ophthalmia attacked only 66 out of 2266 infants, giving a proportion of 3 per cent. He states that since these simple washings were attended to no severe cases, ulcers of cornea or such like, occurred.

[1] In Gerhardt's *Handbuch der Kinderkrankheiten*, Band v. Abth. 2, 262.

According to Horner (*l. c.*, 263) Bischoff of Basle was the first to institute systematic carbolic injections into the vagina, and salicylic washings of the eyes of the infant, with a view of protecting them from onsets of ophthalmia. Up till the year 1873 blenorrhœa occurred in 5·6 per cent. In 1873 and 1874, by strict attention to cleanliness, the percentage was reduced to 3·5 per cent., and in 1875–76, when the disinfection was carried out, to 2·6 per cent. Alfred Graefe thinks that another Swiss was the first in the field when he states that Schiess, in the year 1876 (*Correspond. Bl. fur Schweizer Aerzt*, p. 673), recommended the use of ½ per cent. solution of carbolic acid, or 1-10th per cent. solution of thymol, for the antiseptic prophylaxis of ophthalmia neonatorum. He himself suggested to his colleague, Professor Olshausen of Halle, without knowing the experiment had been made elsewhere, the desirability of trying to prevent the occurrence of ophthalmia by washing the eyes of new-born children with 1 per cent. carbolic lotion. The result of the experiment was that the percentage of ophthalmias was reduced from 12·5 to 6.

The most striking and satisfactory results, however, have been obtained by Dr Crédé of Leipzig and those who have followed his plan. The following table shows the relative frequency of the ophthalmias before and after his systematic treatment was instituted:—

Year.	No. of Births.	No. of Eye Disease Cases.	Per Cent.
1874	323	45	13·6
1875	287	37	12·9
1876	367	29	9·1
1877	360	30	8·3
1878	353	35	9·8
1879	389	36	9·2
1880 till May 31	187	14	7·6
1880 June to Decr.	200	1[1]	0·5

For a time he tried to protect the children by frequent carbolic or salicylic injections into the vagina of all the pregnant and parturient women admitted into the lying-in hospital. This lessened the frequency of the attacks, but did not banish the mischief, which in some cases proved obstinate and vicious.

In the first half of the year 1880 he began to effect a more decided reduction in the number of infants attacked with disease by washing their eyes in solutions of borax or nitrate of silver.

In the second half of the same year, as is shown by the table, he succeeded in banishing the disease completely. His plan of procedure consists first of all in washing the eyes of the child with pure water, and then with a glass rod applying a 2 per cent. solution of nitrate of silver, afterwards applying for twenty-four hours lint soaked in 2 per cent. salicylic solution. In his second paper he states that he has left off the salicylated compresses, and simply puts a drop of the nitrate of silver solution into the eyes of each child after it has been washed; and of 300 children thus treated not one had shown a trace of the disease.

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[1] This was a case in which the eyes were not disinfected, so that properly speaking the percentage is 0·0 per cent.

The method so successfully practised by Crédé in Leipzig has been carried out elsewhere with equally striking results. In the Stuttgart Maternity, under the guidance of Dr Fehling, the practice was introduced in 1881, as recorded in Bayer's paper on the subject. In the previous ten years the proportion of cases of infantile ophthalmia varied from 1·1 per cent. to 14·3 per cent., the great variation being partly due, as Bayer suggests, to the record being kept by different observers. But the use of the nitrate of silver applications to the eyes led to the complete abolition of the disease. The after-application of the salicylate compresses was done away with, and Bayer might well say, "In efficacy and simplicity the procedure is alike sovereign."

Felsenreich's contribution gives the results of experiments made in the great lying-in hospital at Vienna, in the wards of Professors Carl and Gustav Braun, where also the salicylated compresses were omitted, and the eyes of the infants simply had the nitrate of silver solution dropped into them. Of the first 500 cases so treated, only two children were affected with a slight blenorrhœa. There were nine attacks in the following 2500 cases; but of more than 3000 children thus treated, only 58, or 1·93 per cent., were affected with the disease,—a valuable result, as Felsenreich indicates when he adds that among 1887 children born at the same time, but not similarly treated, 82, or 4·34 per cent., became affected with blenorrhœa more or less grave. This author, as Bayer also does, intones the importance of lessening the numbers and diminishing the intensity of a disease in the infant that sometimes necessitates the prolongation of its mother's residence in the hospital; and he concludes by remarking that "henceforward the test of success in the management of a Maternity will depend as much on the proportion of cases of infantile blenorrhœa as on the maternal morbility and mortality."

Haussmann, whose interesting work gives a very elaborate and exhaustive exposition of the whole subject, and who vindicates for himself priority in the suggestion of the possibility of extirpating the disease by a proper prophylaxis, closes his monograph by saying, "The origin of the conjunctival inflammation in infants is now completely established; its prevention lies fully within our power: may the development of our knowledge, represented in these pages, assist in making that knowledge the common property of all those through whose co-operation alone success can be attained in relegating ophthalmia neonatorum to the category of diseases that have been happily extinguished and remain only historically memorable."

It was time, therefore, that the procedure should be tried in our Maternity. I am afraid that, although Dr Macdonald, in his last report, stated that he had had recourse to carbolized washings of the eyes of some of the infants with partial success, the subject has never sufficiently attracted the attention of the medical officers; and I am not by any means sure that correct statistics are attainable of the proportion of children attacked with the disease. I know that in former sessions I have never failed to meet with a series of cases to furnish a theme for clinical demonstration; whilst this session I only once had an opportunity of seeing the disease, and that in a very mild form. Searching the records of my two preceding quarters, Nov. to Jan. 1880-81 and 1881-82, I find that among 85 living children 10 were noted as having been attacked with ophthalmia, or 11·76 per cent. During the quarter just passed, Nov. to Jan. 1882-83, I asked the house-surgeons to carry out Crédé's prophylaxis, using, however, a weaker solution of nitrate of silver, and omitting the salicylated compresses. The result has been that only 3 out of 57 infants showed any trace of the disease, and, as I have already hinted, the mischief showed itself in a very mild and modified form. There was only slight swelling of the eyelids, the secretion did not assume a puriform aspect, and the mischief was over in all in a few days. I have to express my conviction that in the cases affected it is extremely probable that there was some carelessness on the part of the nurses, to whom sometimes the application of the eye-wash was entrusted.

To obtain the best results it is necessary that the eyes of the infant should be washed immediately after its birth—perhaps just after the escape of the head, if there be sufficient delay between the birth of the head and the expulsion of the trunk. In any case, before there has been time for much opening and shutting of the eyes, they should be carefully washed with pure water. Then the eyelids should be pulled apart, and a drop of the solution dropped into the interior with a glass rod. The best results have been attained where a solution of the strength of two per cent. of the nitrate of silver has been used, as proposed by Crédé; and on another occasion I should myself follow his plan. It is right, however, to add that A. Graefe and others have expressed doubts as to the safety of using such a strong solution in every case, and it is quite possible that a weaker solution may prove as efficacious. Or a lotion of another kind may be found as useful, such, for example, as the liquor chlori, which Dr Argyll Robertson has been in the habit for many years past of recommending to his students as a prophylactic for this ophthalmia neonatorum.

ARTICLE III.—*Observations on the Bladder during the Early Puerperium.* By J. HALLIDAY CROOM, M.D., F.R.C.P.E.; Lecturer on Midwifery and Diseases of Women, School of Medicine; Physician to the Royal Maternity Hospital; Additional Examiner in Midwifery, University, Edinburgh.

(*Read before the Edinburgh Obstetrical Society,* 10*th January* 1883.)

IN a previous communication I discussed some clinical features of the bladder during pregnancy, and specially to the pressure exerted on it by parturition. On the present occasion I desire to draw attention to some conditions of the bladder during the normal puerperium. During the second stage of labour the bladder is either voluntarily or involuntarily relieved of its contents, so that at the conclusion of the third stage the organ is usually empty. Immediately succeeding the third stage, and during the early puerperium, the bladder exerts an important influence on the uterus. This influence is mainly observed as affecting the position of the uterus. It is convenient here to look at the relative positions of bladder and uterus. The bladder has sunk down into the pelvis from the abdomen, and after labour is to be found, usually empty, lying below the brim of the true pelvis, but on a higher level than during pregnancy. For while the bladder, when empty or slightly distended, is spread out below the anterior uterine segment so that, on introducing a catheter, its distal end and the meatus are on the same level, and in some cases the fundus is lower than the meatus, after labour this relation no longer exists; for, the inlet of the pelvis becoming free, and pressure being removed from the bladder, the organ is allowed to expand upwards, so that a catheter goes no longer directly back, but its point is directed upwards, and is consequently elevated above the level of the meatus.

The uterus, as to position immediately after labour, varies. It is pressed forwards by the action of the abdominal muscles acting on its posterior surface. But it may be said roughly that its fundus, some hours after delivery, is to be found at or quite close to the level of the umbilicus. Immediately after labour, I have said, it varies, being sometimes so deep in the pelvis as to be scarcely felt, and at all times its level immediately after delivery is lower than after the lapse of a few hours. The organ is inclined forwards so that the anterior surface of its fundus is in close relation to the anterior abdominal wall, through which it can always be readily palpated. The organ is too large to fall below the promontory, and in the ordinary position the pressure of the intestine is directed on the posterior wall. It is usually found occupying a central position, although deviations from the mesial line are very frequent. I do not now refer to distinct displacements, but simply deflections of the uterus to one or other side. Out of 60 cases observed at the Maternity Hospital, 14 deviate, 4 left, 10 right; 46 median. Börner noted 64 cases; 52 median, 11 deviations.

Such is the relative position of uterus and bladder when the latter viscus is empty. While the bladder is filling and after it is distended various changes take place in its relation to the uterus. Unlike either early pregnancy, where its expansion is interfered with by the anteverted uterus, or late pregnancy, where it is limited by the anterior uterine segment, or parturition, where it is compressed between the abdominal wall and uterine body, the post-partum bladder meets with no obstacle to its distention upwards. Its recognition suprapubically is simple enough. Per vaginam, when the bladder is distended, through the anterior vaginal wall is felt a firm elastic swelling which completely fills the anterior vaginal arch and presses it down. The cervix is high up and well back, and it is impossible to feel any part of the anterior uterine wall in front of the cervix, unless, indeed, very considerable pressure is made on the uterus from above.

The most obvious effect which distention of the bladder exerts on the uterus is familiar to every practical accoucheur. If the hand is passed over the abdomen twelve or fifteen hours after labour, and the fundus uteri is felt high and far back from the abdominal wall and less distinctly palpated, the explanation is to be looked for in a distended bladder.

First, then, displacement upwards. The term displacement does not, however, convey accurately what occurs. No doubt there is a certain amount of ascension of the uterus. This is small. The heightening of the fundus uteri is brought about through the distending bladder straightening the uterus and making it upright. As the bladder increases in size the uterus is pushed further back from the abdominal walls. Some of the intestines in this way slip down between the uterus and abdominal parietes, and then palpation is rendered more difficult. It is not so much a mere dragging up of the uterus as an increase in its real height by the straightening of the organ. In Autefage and Depaul's experiments with the hysterometer—an instrument constructed like a pair of compasses, one branch being introduced into the vagina to the cervix, and the other externally at the fundus uteri—reference is made to this point. By means of this instrument, devised by Depaul and carried into practice by Autefage, it was attempted to estimate the rate of involution of the uterus. Autefage mentions that the actual length of the uterus was increased while the bladder was distended, and that the organ returned to its normal size when the bladder was emptied.

There seems to me to be a fallacy here, for with a full bladder the distance between the two buttons of the hysterometer will be increased owing to the bulging of the vesical tumour rendering the whole organ more erect, and, further, owing to the displacement of the cervix further back in the vagina. In order to ascertain the fact of increase in the cavity of the uterus the measurements would require to be taken with the uterine sound.

I have just said that the normal puerperal uterus is central.

This, however, is a point upon which there is apparently some difference of opinion. For while some, as Schroeder, and with him the majority of observers, hold that the usual position of the uterus is right lateral deviation, others, such as Börner, maintain that in the majority of cases the uterus is central. It is important, in studying the effects of bladder distention, to look at this question shortly.

1*st*, Considering the great preponderance of right lateral deviation of the pregnant uterus, such an inclination during the puerperium is just to be expected. For instance, in the table given by Joulin from Dubois and Pajot, among 100 women, 20 no deviation, 4 to left, 76 to right. This right lateral deviation is not only to be expected, but, as has been shown by the authors above mentioned and by many other observations, is really the case. Yet several considerations go to throw some doubt on points, for the more accurate observations of Börner show that when certain conditions are imposed the central lie of the uterus is found to be the most common—out of 60 cases, 52 mesial, 4 right, 1 left; or, in the 60 cases taken during my own term, where the same conditions were observed, in 46 no deviation, 10 right, 4 left. Now these conditions are—1. An empty bladder; 2. An empty rectum; 3. The supine position of patient.

When these conditions are observed, it will be found that the mesial position is the most frequent, and, being the most frequent, therefore the normal one. My own observations bear this out, and I have found that when lateral deviation was masked with either a loaded rectum or a somewhat distended bladder, the mesial position was resumed when these organs were emptied. Further,—and this is a point which is not sufficiently insisted on,—the position of the patient has a great deal to do with these deviations. A very slight deviation of the body to one or other side is sufficient to give the organ a set in that direction, and Pfannkuch has shown that even in cases where the uterus had the right lateral deviation well marked during pregnancy, a few hours' lying on the left side is sufficient to change the whole relation of parts. This is a fact of which there is abundant clinical evidence. I have frequently, in noting the position of the uterus post-partum, fallen into the error of recording the lie as lateral—this being due to the patient lying on one or other side immediately before, for I have observed that the organ does not resume its central position until the patient has assumed the dorsal decubitus for some time. Now, a very inconsiderable lateral inclination of the pelvis is sufficient to cause this. It is therefore absolutely essential, in settling the question of the most common lie of the uterus, to insure that the pelvis be horizontally placed on the bed. This lateral displacement of the uterus by the accidents of position is of importance when we come to look at the influence of the distended bladder on the post-partum uterus, which is almost uniformly to cause a *lateral deviation* of the organ. A central uterus becomes laterally displaced, and one which is originally laterally displaced becomes more so. This condition is almost uniform. It is very rare to find the uterus central with a full bladder. The displacement is to a certain point in proportion to the repletion of the bladder; but a comparatively small quantity of urine is sufficient to throw the uterus from the mesial line. Now, this deviation may either be right or left.

Kehrer made an experiment on a cadaver by artificially filling the bladder, and found a lateral inclination of the puerperal uterus with the fundus to the right.

Clinically observed, the right deviation is the more frequent. This, however, although it has the support of the majority of observers, and although it is the deviation which is most easily explained, does not seem to be so frequent as alleged; for during my last term of office at the Maternity Hospital I was careful to note every case in the early puerperium in which a distinct vesical tumour was observed, and without a single exception the vesical tumour was to the right and the uterus to the left. To be exact, out of 38 puerpera observed, there were 9 cases of distinct vesical tumour, all which were right. Now, there are various causes at work in causing these lateral deflections of the uterus. That it is the bladder which displaces the uterus, of course, there is no doubt, for I have just shown that with an empty bladder the uterus is central. In the first place, I believe in many cases they are accidental. As I have already hinted, the right lateral deviation of the uterus admits of ready explanation in the previously existing deviation during pregnancy, and probably a loaded condition of the rectum may be a factor in right uterine deviation.

But what explanation is to be offered of left deviation?

This lateral displacement of the uterus by the distending bladder is matter for study. The mechanism I take to be as follows:—As the bladder fills the fundus uteri is raised by being thrown from the abdominal wall. It then falls to the right side, not, as I believe, owing to the bladder pressing it to that side, but—1st, from its natural lie in that direction obtained during pregnancy; 2nd, owing to some extent to the influence of the rectum; 3rd, it may be from the accident of position.

The bladder post-partum naturally tends to expand towards the right side rather than to left; and if the influence of the bladder were the only factor at work in displacing the uterus, this organ would deviate more to the left than the right. There seems to me to be two reasons for this.

1*st*, The female bladder is marked by lateral asymmetry. The following observations were made by Barkow:—Out of 35 bladders of adult women, in 10 the asymmetry was minor; in 21 the asymmetry was major; out of the 35 only 4 were completely symmetrical.

The asymmetry is much more marked on the right than on the left. Barkow found, right 18; left 8.

This asymmetry, though characteristic of the female bladder generally, is so constantly present in the bladders of parous women that it may be regarded as the normal condition.

There is a fallacy, however, in assuming that a bladder will distend when removed from the body, or even in the body after the viscera have been removed, in the same way as it would in the closed abdominal cavity. For instance, in a section of a female pelvis of a girl æt. 18 by Legendre, he shows the bladder distended not as one would expect in a young girl. Braune, referring to this, mentions that it probably arose from the bladder being distended after the viscus was removed.

2nd, The right lateral expansion of the bladder immediately after labour is favoured by the condition of matters ante-partum. Thus the bladder is flattened under the anterior and lower segment of uterus, and if careful sounding of the bladder is made it will be found, as I have shown elsewhere, that while little space is left on left side, the bladder is free on the right, owing, no doubt, to the preponderance of L.O.A. position. It seems to me that if the uterus were a perfectly free body, not biassed by any deviation to one side or another, the effect of the filling of the bladder would be first to raise it, and then to deflect it to the left.

I have made four experiments in women in whom, during pregnancy, there was NO lateral deviation to be noted, and in whom the position of the pelvis was as nearly horizontal, and in each the uterus, with an empty bladder, was central. In each case the uterus, with full bladder, was *left* and *bladder* tumour right. In each, uterus during pregnancy central. On morning of third day bladder and rectum empty, patient supine, uterus central. On fourth day, Case 1.—Distinct vesical tumour; direction upwards and to *right;* uterus pushed to *left* ½ inch above umbilicus; 20 ounces of urine drawn off; vesical tumour disappeared; uterus sank two inches below umbilicus and became *mesial.* Case 2.—Ovoid vesical tumour 1 inch above umbilicus; main portion to *right;* uterus to *left;* 30 ounces of urine drawn off; uterus *mesial.* Case 3.—Distinct bladder tumour extending to *right* side 1½ inch above the level of umbilicus; uterus to *left* and back; 28 ounces of urine drawn off; uterus *mesial.* Case 4.—Distinct vesical tumour 1½ inch above umbilicus; lies to *right* of mesial line; uterus to *left*; 32 ounces of urine drawn off; uterus *central.* Obs. 2, Case 4.—Vesical tumour extending 1 inch above umbilicus; main portion to *right;* uterus to *left;* 25 ounces urine drawn off; uterus *central.*

It seems to me, then, that normally the uterus in the early puerperium, under the conditions mentioned—viz., an empty bladder and rectum and the horizontal position—is central; that when the bladder is full the uterus is deflected either to the right or left side. If to the right side, the deflection is due, *1st,* to a previous existing right lateral deviation during pregnancy; *2nd,* to the presence of a loaded rectum; *3rd,* to the accident of position. If to the left side, it is mainly due, *1st*, to the filling of the bladder, which, for the reasons mentioned, expands to the right; or, *2nd*, to the left lateral decubitus of the patient.

It is to be further observed that these displacements are more common in early puerperium than in late.

1st, Because more urine is secreted in early than late puerperium, and therefore the bladder gets more rapidly distended. Gassner has shown that increased diuresis is the normal condition during the puerperium, and both this author and Winckel distinctly show that the increase is most marked in the first days after delivery.

2nd, Because retention of urine is more common in the early days of the puerperium.

3rd, The uterus becomes less mobile as the puerperium advances.

It is matter of clinical observation that in many cases the puerperal uterus rotates round its central axis, so that, in fact, the transverse axis of the uterus no longer corresponds to the transverse diameter of the pelvis. One side of the uterus is thrown forwards, with the result that the transverse axis of the uterus corresponds to the oblique diameter of the pelvis. This occurs apart from any repletion of the bladder, and is recognised during pregnancy when the anterior surface of the uterus looks to the right, so that the transverse axis of the fundus is the right oblique diameter of the pelvis.

Out of 64 cases noted by Börner, in 50 rotation was totally absent—both sides of the uterus being on the same plane, the transverse axis of the uterus corresponding to the transverse axis of the pelvis. In 12 there was distinct rotation to the right side, and in two rotation to the left. This rotation of the uterus is specially well marked in cases where the bladder is distended, and it occurs with distention of the bladder, in cases where it is absent, where the viscus is empty. If the rotation, apart from the filling viscus, be to the right, then when it is full it is more marked in that direction, and *vice versa.* It is worthy of note that the filling of the bladder never causes rotation in an opposite direction. Pfannkuch remarks that "sometimes when the bladder is very full one can observe a rotation of the uterus in the sense that the lateral edge is turned round towards the front." In the cases I have recorded this rotation has been distinctly remarked to the extent that out of 40 cases which have been noted, in 10, apart altogether from bladder relations, the rotation to the right was marked; and in those cases where the bladder was full the rotation has been noted twice.

We now come to look at the quantity of urine required to produce these three definite alterations in the post-partum uterus, viz.—1. Displacement upwards and backwards; 2. Displacement laterally; 3. Rotation. I have found that from 20 to 30 oz. of urine are sufficient to bring about the upward and lateral displacements of the uterus. From 8 to 15, I have found, make but very little appreciable difference. Pfannkuch says that 100 cc. of urine—*i.e.*, 3·5 oz.—raise the uterus, on an average, about 1 cm., that is, ⅓ inch.

Autefage says that with a bladder full, of from 400 to 600 grammes of urine, nothing is more common, the day after accouchement, than to observe an augmentation of the real height of the uterus, which is not less than from 4 to 9 cm., 1⅓ to 3 in. Once he found 3 to 9, usually 5 cm. = 1⅔. Now, on comparing these figures with each other, the results will be found to be very different, and the explanation will be found in the fact that the observations were made in different periods of the puerperium. I have already shown that this is important, because the displacing influence of the bladder on the uterus proportionally diminishes as the puerperium advances, and I need not again here refer to the reason for this. In the present communication I refer to the early puerperium, and here I mean to state that an amount of urine varying from 20 to 30 oz. is necessary to bring about the position changes in the uterus to which I have referred; that, further, the relative amount of position change is *more* marked with 25 oz. than with the largest quantities; or, in other words, that the displacement of the uterus does not, after a certain point has been reached, bear a direct proportion to the repletion of the bladder. For example, the displacement changes, upwards, laterally, and transversely, while distinctly marked with 25 oz., will not be *proportionately* increased with 50 oz.

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ARTICLE IV.—*The Physiological Action of Carbolic Acid, Illustrated by its Use in Surgery.* By S. RUTHERFORD MACPHAIL, M.D. Edin., Assistant Medical Superintendent, Garlands Asylum, Carlisle.

I HAVE on a former occasion endeavoured to show that the risk of carbolic acid poisoning is not an objection to the Listerian method of antiseptic surgery, but rather an objection against the particular antiseptic employed.[1] I then discussed the clinical features of the subject; my intention in this paper is to review the physiological action of carbolic acid.

Carbolic Acid as a Germicide.—As the theory of its use in surgery implies, carbolic acid is exceedingly poisonous to the lowest forms of life. This action has already been exhaustively investigated, and need not be dealt with now. The researches of Pasteur, Lister, Tyndall, and numerous other eminent observers, place the fact beyond dispute that carbolic acid has very great power in destroying both animal and vegetable ferments, and in arresting the changes which they produce.

Experiments on Animals.—Küster of Berlin[2] found the following symptoms produced in animals by the injection of carbolic acid either directly into the veins or into the subcutaneous cellular tissue:—General muscular twitching, alternating with clonic spasms, and a rapid benumbing of the senses. Death occurred through paralysis of the respiratory centre in the medulla. The heart continued to beat for some time after respiratory efforts ceased. When a large quantity was injected the temperature fell, and all the symptoms of collapse were present. All his experiments appear to have been performed on dogs. According to Jules Lemaire[3] and Ernest Labée,[4] toxic doses in frogs produced paralysis of the posterior extremities, eventually spreading to the anterior extremities and involving all parts of the body. E. Salkowski[5] performed two sets of experiments, one on frogs, the other on rabbits. In frogs he found symptoms of pain, then a drowsy condition, followed by twitching of the muscles and increased reflex irritability; finally cramps and death. The symptoms in rabbits were, fibrillar twitchings, slight at first, but soon becoming general, clonic spasms, rapid respiration, salivation, dilatation of pupils, diminished sensibility, convulsions, and death. Before the convulsions fairly set in the animal was generally unable to stand, and lay on its side kicking and struggling to get up. Husemann[6] says that the characteristic phenomena of carbolic acid poisoning in pigeons are, clonic convulsions, lowering of the temperature, salivation, secretion of tears, conjunctivitis, diminution of sensibility, and dyspnœa. Paul Bert, and F. Joylet[7] experimented on frogs, and found practically the same series of symptoms as the previous observers. They divide their cases into acute and chronic. In the former, death resulted from cardiac paralysis, or was ushered in by cramps which they considered due to an increased irritability of the spinal cord. In the latter, life was prolonged for some days, the animal dying from a low form of pneumonia. Gies[1] found a specific effect produced on the muscles. They were rendered less irritable and their contractility less easily exhausted. He also corroborates the occurrence of diaphoresis and salivation as symptoms of its toxic action.

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[1] "Surgical Carbolic Acid Poisoning," *Edinburgh Medical Journal*, August 1881.

[2] *Archiv für Klinische Chirurgie*, 1879, Bd. xxiii.

[3] *De l'Acide Phenique*, 1865, p. 115.

[4] *Archives Générales de Médecine*, 1871, p. 45.

[5] *Pflüger's Archiv*, 1872, Bd. v.

[6] Schmidt's *Jahrbücher*, clv. p. 272.

[7] "L'action toxique de l'acide phenique," *Gaz. Med.*, 1872.

Küster also investigated the quantity forming a fatal dose in animals. In a dog he found that the smallest quantity which caused death was ·036 per cent. of the weight of the animal's body in life. The average fatal dose was ·076 per cent. If injected slowly, a larger quantity of acid was required.

Having thus shown the similarity in the symptoms experimentally induced in animals, the effects of carbolic acid on the different systems may now be considered, noting at the same time the pathological changes found in fatal cases of poisoning in man.

Nervous System.—Carbolic acid appears to exert a direct influence upon the cerebrum, and the train of symptoms is well marked. Convulsions are the most common phenomena in the lower animals, but in the higher mammals these are usually absent, and when present are not at all violent. The convulsions are usually clonic, but may assume a tonic or tetanic character. In man the cerebral functions are early and seriously affected. The first symptoms observed are usually restlessness, bewilderment, delirium, stupor, insensibility, and coma. Muscular twitching, one of the earliest toxic symptoms observed in animals, has rarely been recorded as a feature of carbolic poisoning in man. Küster never met with such a case. My friend Mr R. W. Greenish has kindly placed at my disposal the notes of a case occurring in his practice in which this symptom was observed. Twelve hours after operation the patient was seized with "continual rapid twitching of the limbs, body, and face," became delirious, and had all the usual symptoms of carbolic poisoning. The twitchings continued for twenty-four hours, and, except the delirium, there were no other nervous symptoms.

According to Salkowski, the convulsions are due to an increased irritability of the spinal cord. He argues thus:—They are not of cerebral origin, because after division of the cervical spinal cord the muscular twitchings are increased in all parts below the seat of division. On the other hand, they are not peripheral, because cutting through the sciatic nerve prevented any cramps taking place in the leg operated on, and they did not take place in a limb protected from the action of the poison by tying the main artery. Therefore they must be spinal. Küster and Labée agree so far with Salkowski in regarding the convulsions as central, but dispute their spinal connexion. Their origin is referred by the one to the medulla, and by the other to the base of the brain. Küster's presumption is strengthened by the fact of their clonic character. Labée removed the optic lobes in frogs, and found that convulsions still occurred when the basal ganglia were irritated, so that if the convulsions are exclusively central they must, if these results be accurate, be due to stimulation of the centres at the base of the brain. It is difficult to reconcile the two classes of experiments with our present knowledge; but if both investigations are correct we are tied down to the belief that the convulsive phenomena may be both spinal and cerebral in their origin.

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[1] Quoted by *Lancet*, Sept. 24, 1881.

An investigation of the reflex action by Stone[1] obtained very decided results. He found that reflex action in frogs was first of all diminished and then increased. He quotes a case recorded by Winslow where similar symptoms were observed in a child accidentally poisoned by swallowing two drachms of Calvert's carbolic acid.

Motor paralysis has been observed in man, though not invariably. The patients often lie absolutely tranquil, unable to move, and have even difficulty in spitting out the saliva secreted.

Circulatory System.—The action of carbolic acid upon the circulation has been carefully studied by Reichert, and his results are given in a paper[2] undertaken to prove that carbolic acid is a cardiac depressant. The first effect of the poison appears to be increased cardiac systole with contraction of the peripheral arterioles, resulting, of course, in increased arterial tension. Salkowski found that the heart beat regularly for a short time after death, but was finally arrested in diastole. He also asserts that the rapidity of the circulation in the web of a frog's foot can, under the microscope, be seen to be at first increased, and afterwards greatly diminished by the hypodermic injection of carbolic acid. In man the heart generally presents strong evidence of the result of a direct poison. After death it has been found in a pale, flabby, and distended condition, and in several instances the left side contained dark semi-clotted blood. Exceptionally the organ has been described as healthy and empty. The ultimate action of the poison undoubtedly leads to profound cardiac depression. Some original experiments by Reichert show that the intravenous injection of a large quantity of carbolic acid causes immediate cardiac paralysis. Gies found an immediate fall in the blood-pressure. He supposed this was due to a special action of the acid on the medulla and inhibitory fibres of the vagus. Substances which arrest the heart in diastole are, as a rule, cardiac depressants, and any influence which carbolic acid exerts on the heart is probably of this nature. Clinical evidence in man, as shown by the pulse, strongly corroborates this view, for the feeble, frequent, and intermittent pulse so often noted in carbolic acid poisoning is evidence of decided depressant action, as is also the slow and feeble pulse which I found in some of my cases.

For convenience sake the relation between pulse and temperature may be considered here. According to Wunderlich,[3] the application of external irritants has the effect of lowering the general temperature rather than of raising it. Watson Cheyne[1] found that the temperature was not increased in rabbits by repeated injections of carbolic acid. Salkowski, in a series of 105 experiments, observed a slight fall of both pulse and temperature. Küster found that the temperature rose one degree during the injection or soon after, but by next day was sub-normal and continued so. In fatal cases there was often no rise. So satisfied have some physicians become of this power of lowering temperature possessed by carbolic acid, that it is now advocated as an antipyretic. Dr Desplat of Lille has used it advantageously in enteric fever. His most successful results were in moderately severe cases in which the temperature ranged from 104° to 105° F.

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[1] *Philadel. Med. Times*, 1878, p. 616.

[2] *American Journal of Med. Sciences*, Oct. 1881.

[3] *On Temperature in Disease.*

In all the recorded cases of surgical carbolic poisoning the temperature has been high. It reached 105° F. in two of my own cases. Now, if we eliminate tension, which is the most common cause of elevation of temperature in aseptic cases, and the loss of blood after operation, which has frequently a similar effect, we must fall back on the nervous system to explain this high temperature. The hypothesis of its being a purely nervous phenomenon is strengthened by the fact that as a rule the pulse in no way corresponds. Indeed, this is one of the most striking clinical features of carbolic acid poisoning. In all the cases I have met with the pulse was weak, irregular, and, as a rule, below 80, instead of the rapid, intermittent, febrile pulse which a temperature of 105° usually implies. This can scarcely be a coincidence, for Dr Patterson[2] records a similar case with a high temperature and slow pulse. He ingeniously gets over the difficulty by saying, "It looks as if the high temperature were a symptom by itself, and that it was confined to the skin, and so the pulse is not quickened." His explanation is certainly not a physiological one; and as he mentions gastric and urinary disturbance as important symptoms in the case, the poison must have had more than a local action. Does it not seem more likely that one of the toxic effects of carbolic acid, when absorbed into the system, is to elevate the temperature by a reflex stimulation of the nervous centres? Volkmann found such a high temperature in his operations with carbolic acid, accompanied by no other feverish symptoms, that he introduced the term "aseptic fever" to describe the condition.

Respiratory System.—In the earlier stages of the poisoning the respirations are increased in frequency, but later on they become deep, slow, and laborious, with a markedly stertorous character. We have already seen that Küster, in his experiments on dogs, found death to occur through benumbing of the respiratory centre. Salkowski found, by dividing the vagi in various animals, and injecting carbolic acid, that the slow respiration induced by the operation became much accelerated. He concluded, from this, that the acid acts by stimulation of the respiratory centre. He also considered it probable that the slow and diminished respirations which occur later on are due to paralysis caused by the continued action of the poison on the respiratory centre and the peripheral extremities of the nerves in the lung.

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[1] *Antiseptic Surgery*, p. 590.

[2] *Glasgow Med. Journal*, Jan. 1881.

A certain amount of elimination of carbolic acid is effected by the lungs. Lemaire recognised the odour of the acid in the breath of dogs and rabbits. Other observers have noted this in the human subject, and in at least one case I smelt the odour of carbolic acid in the breath of a patient suffering from surgical poisoning.

The experiments of Kemster[1] prove how readily the mucous membrane can absorb the vapour of carbolic acid. His experiments consisted in confining rats and mice in a bell-jar in which was suspended a sponge impregnated with carbolic acid, and the animal compelled to inhale the vapour. Toxic symptoms were speedily induced. "The mouse in five minutes staggered as if intoxicated; the paroxysms returned several times during one and a half hours, when the animal became convulsed and died." It is easily conceivable that carbolic acid will act in a similar way when otherwise introduced into the system.

The post-mortem results of examination of the lungs in fatal cases of poisoning are very marked. In Lemaire's investigations on animals the pathological appearances were, "pseudo-membranous and purulent inflammation of the bronchial mucous membrane, with lobular pneumonia or congestion of the lungs;" while the frogs experimented on by Bert and Joylet died from a low form of pneumonia. Tennent[2] records a case of poisoning with crude carbolic acid, fatal on the twenty-fourth day from double pneumonia. In a fatal case reported by Houston[3] both lungs were much congested. Similar cases are reported by Ferrier[4] and Brabant.[5] I have by me the notes of a well-marked case of carbolic poisoning occurring in the hospital practice of Mr W. Alexander, Liverpool, who has kindly placed them at my disposal. The case was one of amputation of the thigh, and death took place forty hours after operation. The only pathological lesion was extensive recent pleurisy of the right side. Sandwell[6] found a similar condition in a fatal case where carbolic acid was absorbed through an abraded skin.

Clinical evidence is quite in accord with these pathological appearances. In a series of twenty-four reported cases of surgical carbolic poisoning which I have elsewhere tabulated, pulmonary symptoms were observed in six, notably in the form of pneumonia and pulmonary congestion. There is every reason to believe that carbolic acid absorption induces acute inflammation of the lung or its membranes. A case that I recently saw in the Liverpool Royal Infirmary, under the care of Mr Mitchell Banks, may serve as an illustration. The case was one of amputation of the breast, performed under Listerian precautions. Greenish urine and other symptoms of carbolic poisoning were observed on the fifth day, coincident with a severe attack of pleurisy with effusion on the side operated on. The patient eventually recovered, but for several days her condition was one of great anxiety. No doubt, such cases are specially liable to be seized with some form of acute lung disease. For not only is the operation oftentimes protracted—it may last fully an hour when the axilla has to be cleared out—and a cold spray plays on the part all the time, but a large portion of the natural covering of the chest walls has been removed, and the space between the pleura and the external atmosphere is thereby much diminished. Therefore carbolic acid may at times get more blame than it deserves. But this objection cannot be taken to a case under my own care, where well-marked pneumonic symptoms developed in the course of treating a compound fracture of the leg antiseptically. This patient had the usual gastric and urinary symptoms of carbolic intoxication.

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[1] *Amer. Journ. of Med. Sciences*, July 1868.

[2] *Glasgow Med. Journ.*, 1871, p. 74.

[3] *Med. and Surg. Reports*, 1870, No. 22.

[4] *Brit. Med. Journ.*, 1873, i. p. 167.

[5] *Lancet*, 1873, i. p. 302.

[6] *Brit. Med. Journ.*, 1870, ii. p. 382.

Digestive System.—The local action of carbolic acid on the mucous lining of the alimentary tract is, as might be inferred from its irritant properties, similar to that of the mineral acids. But with this effect we are not concerned. The absorption of carbolic acid into the system induces a train of well-marked gastric symptoms. Salivation, so frequently observed in experiments on animals, is rarely met with in man. The chief symptoms are, loss of appetite, dysphagia, frequent nausea, and incessant vomiting. Mr Cluff, in one of the recent reports of University College Hospital, says, "Many cases of persistent vomiting of an uncontrollable nature occur after antiseptic operations, which vomiting may or may not be aided by chloroform, and the only cure for which is the leaving off of the carbolic applications." This is practically the experience of every one who has met with such cases, although Nussbaum[1] states that he found great advantage from the subcutaneous injection of three milligrammes of sulphate of atropia in severe cases of vomiting and salivation. These gastric symptoms are in all probability cerebral in origin, the acid acting as a stimulant to the vomiting centre in the medulla. This centric view is supported by Küster, who considers the symptoms due to brain irritation, and not to gastric catarrh. The only other feasible explanation of the *modus operandi* is this. When carbolic acid is absorbed into the system, either through abraded surfaces or directly comes in contact with the gastric mucous membrane, it at once irritates the peripheral extremities of the vagus. Whether nausea and vomiting are the reflex result, or whether the stimulating action is too quickly superseded by a physiological destruction of the peripheries for this to take place, will depend on the rapidity with which the irritant is followed by the caustic action of the acid. When the latter effect is produced, it is perfectly intelligible that emesis cannot take place. In surgical carbolic poisoning the centric theory is, I think, the more probable of the two.

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[1] *Leitfäden zur antiseptischen Wundbehandlung*, p. 141.

Secretory System.—Urine.—Complete suppression of urine is a tolerably frequent symptom of carbolic intoxication. I have observed it in two cases, while in twenty-four tabulated cases there was suppression of urine in four, and in one the flow was scanty. Our inquiry into this secretion will be best conducted under the heads of physical and chemical examination.

(*a.*) *Physical.*—In nearly all recorded cases the urine is described as changed in colour. It is usually dark and smoky, but various other modifications of colour have been observed. Of these the commonest are "olive green," "greenish black," "brownish," and "violet by reflected light." Sometimes the urine is normal when passed, but becomes dark and smoky on standing. Küster says that this coloration occurs only from the external application of carbolic acid, as it was never met with in his experiments on animals. Other observers do not corroborate this statement, and it has been frequently found in cases of internal administration, as in one mentioned by Oberst,[1] where, from drinking 180 grammes of a 5 per cent. solution of carbolic acid, the urine was grayish-brown for a day. The coloration may make its appearance in the first twenty-four hours, but generally later. It has not been observed under two hours. It lasts for several days, and when passing off the tints vary from a dark to a greenish hue. It must be remembered that while dark urine by itself does not imply carbolic poisoning, the converse is equally true, and its absence does not prove immunity from intoxication. The presence of carbolic acid in the urine can be recognised by the special senses of smell and taste, and on one occasion I smelt a peculiar aromatic odour.

As regards the specific gravity, I have found it increased as a rule, but occasionally diminished. It varied in direct proportion to the quantity of acid present, as estimated by the chemical tests referred to hereafter; the specific gravity occupied a range of 9°. The rise occurred sometimes in the early morning, sometimes in the evening, and was not influenced by food. Wallace[2] also records a case in which the specific gravity was increased. This rise in specific gravity observed in man is interesting, as Baumann[3] obtained a low specific gravity in his experiments on dogs.

Carbonaceous particles and blood corpuscles have been found in the urine of patients suffering from carbolic poisoning. These I have not seen. In the only case where I used the microscope frequently I found that the deposit thrown down by the urine after standing for some hours was composed of epithelial scales, granular urate of ammonia, and debris. The precipitate formed by the addition of nitric acid consisted of yellow, brown, and black masses and amorphous granules.

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[1] *Berliner Klin. Wochenschrift*, 1878, p. 67.

[2] *Brit. Med. Journ.*, 1870, i. p. 482.

[3] *Pflüger's Archiv*, 1871, Bd. xiii.

(*b*.) *Chemical.*—The reaction of the urine is always acid, but becomes alkaline after standing for some time. Sonnenberg,[1] in his experiments on animals, found albuminuria in two cases. This is remarkable, because all the kidneys examined post-mortem were hyperæmic, and many contained hæmorrhagic spots in the cortical substance. He quotes a statement of Professor Lücke, that some of his patients had albuminuria due to carbolic absorption. Dr Keith, at the International Medical Congress (1881), stated that the urine in several of his cases contained albumen, and Rendu and Patrouillard[2] mention albuminuria as one of the symptoms in a case of carbolic poisoning reported by them. Other observers have not found albumen in such cases, and with them my own experience coincides.

The chemical tests for the presence of carbolic acid in the urine are two in number. Vulpius[3] found that the normal sulphates were not present in the urine of patients suffering from carbolic acid poisoning, and advised chloride of barium to be used as a test in such cases. Sonnenberg[4] also recommends this test for carbolic acid. Instead of the ordinary white precipitate obtained by adding this reagent to normal urine, there is either a slight cloudiness produced or the urine remains unchanged in cases of carbolic intoxication. The theory is that the normal urinary sulphates are reduced in proportion to the existing degree of intoxication, and their place taken by the sulpho-carbolates. Whether this is the case or not, the administration of soluble alkaline sulphates as an antidote to internal carbolic poisoning has not proved successful. The other test, that of the mineral acids, is much more delicate, and is the one commonly in use. This is really a test for indican, the theory being that the peculiar coloration of the urine in carbolic acid poisoning is due to the colouring matter in the blood being eliminated by the kidneys in the shape of an increased quantity of indican. The question at once suggests itself, What is the normal relation of indican to healthy urine? An accurate answer is impossible with our present limited knowledge of the subject; but Foster[5] says "there often occurs in the urine and sweat of animals a certain substance which has not yet been satisfactorily isolated, but which yields by the action of acids the blue colouring matter indigo as one of the products of its decomposition." Hoppe Seyler[1] considers indican a constant constituent of the urine, but says the relative proportion is increased in carbolic poisoning and in some acute inflammatory diseases, such as peritonitis. According to this authority, we can easily perceive any increase or decrease in the quantity of indican from the degree of colouring the urine assumes when boiled with nitric or muriatic acid. A. Hiller[2] suggests nitric acid as a test for carbolic acid. On adding fuming nitric acid to the urine in cases of poisoning, a red coloration was produced, deepened by the addition of liquor potassæ. M. Jaffe[3] used muriatic acid, and found that the violet red coloration was changed into a deep blue on adding a solution of chloride of lime (chlor. kalk). H. Scrutator[4] added an equal quantity of fuming muriatic acid to the urine, then a few drops of a concentrated solution of chloride of lime, and finally shook up the mixture with a drachm of chloroform. The latter abstracted the blue colour, which fell as a precipitate to the bottom of the glass.

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[1] *Centralblatt für Chirurgie*, 1878.

[2] *Journ. de Pharm. et de Chem.*, 1871, p. 459.

[3] *Pharm. Zeitung*, Mar. 1879.

[4] *Deutsche Zeitschrift für Chirurgie*, Bd. ix.

[5] *Text-Book of Physiology*, p. 543.

In a series of observations which I undertook to determine the length of time before carbolic acid could be detected in the urine in cases dressed with the acid in some form of external application, I used nitric acid as the test. In my hands muriatic acid did not give definite results. The nitric acid test, being a delicate one, required some little care. The method I used was as follows:—Pour into a test-tube half a drachm of pure nitric acid, then from another test-tube add the urine to be examined till the tube is nearly full, taking great care that the nitric acid and urine do not mix. Then heat the lower part of the test-tube containing the nitric acid till the liquid begins to boil, when a deep violet colour will appear in the urine just above the acid, changing into green higher up. If the acid and the urine are at all mixed, the purple or violet colour is only temporarily produced, and the contents of the test-tube change to a yellowish-brown colour. This reaction is due, as already mentioned, to the indican in the urine being changed into indigo. An excess of acid destroys the indigo, and so the blue or violet colour is not produced. A large number of the cases were tested by Mr Greenish, and I give here the combined results of our two sets of observations.

Forty patients were taken indiscriminately from the medical and surgical wards of a large hospital, and their urine subjected to this test. None of the cases in this series were being treated with carbolic acid. In seven there was a slight reaction, but in no case did the purple ring exceed one-eighth of an inch in depth. Two of these cases suffered from cancer, two from acute gastric catarrh, and one from chronic lead-poisoning. Hennige[5] found the quantity of indican in the urine increased in all these diseases. In twenty surgical cases where carbolic acid was used as a dressing or lotion, nineteen gave a decided reaction, the purple ring extending from a quarter of an inch to three inches, and one gave a negative result. This last was a case of excision of the rectum, syringed daily with a weak solution of carbolic acid (about 1 in 100). Most of the nineteen cases were dressed according to Lister's method, but in some the wound was simply washed or syringed with carbolic lotion (1 in 40), and two were burns dressed with carbolic oil (1 in 10).

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[1] *Virchow's Archiv*, xxvii. p. 388.

[2] *Deutsche Klinik*, 1874, Bd. iv.

[3] *Pflüger's Archiv*, 1877, Bd. iii. p. 448.

[4] *Centralb. für die Medicin. Wissensch.*, 1876, p. 818.

[5] *Deutsch. Archiv für Klinisch. Med.*, Bd. xxiii.

The time after the application of the carbolic dressing until the acid appeared in the urine varied in different cases. In the majority the reaction was given on the day after operation or the local application of the acid, but in some it did not appear until the second day. In a case in which the urine was examined each time it was voided, the shortest time after the application that the reaction was observed was three hours, the average five hours. The time at which the reaction disappeared also varied. The duration after a single application of carbolic acid was from one to three days. When the urine was tested once a day and the dressings continued, the reaction continued for several days, and in one case lasted four days after carbolic dressings had been discontinued. In the case particularly examined the reaction lasted on an average for twenty-five hours after each dressing; the shortest period was sixteen hours, the longest thirty-two hours. The reaction occurred independently of any change of colour in the urine, though when the discoloration was marked the reaction was invariably obtained. Sometimes a slight grayish tinge was observed although the indican reaction was not given. In only two of these twenty cases were the constitutional symptoms sufficiently severe to enable one to say that the patient suffered from carbolic intoxication, though in others a minor degree of poisoning did undoubtedly exist.

Ten specimens of normal urine, to which carbolic acid had been added in various degrees of dilution, gave no reaction with nitric acid.

Compared with the chloride of barium test, the detection of indican in the urine by the nitric acid reaction is of a far more delicate nature. In daily testing with the former it was often impossible to say whether there was an increase in the sulphates as compared with the previous day. When the same urine was subjected to both tests, I more than once observed an increase in the quantity of sulphates going on hand in hand with a lessening reaction to nitric acid.

We have still to consider the cause of the peculiar coloration of the urine. A true solution of this question is not possible with our present knowledge, for the subject requires further investigation. The generally accepted theory is that a part of the carbolic acid is eliminated from the system, and another portion is burnt up within the body. The kidneys naturally take a considerable share in this eliminative process. The colouring matter of the urine will therefore, in all probability, be the result of the destruction of a portion of the carbolic acid formed by its partial oxidation in the system. When carbolic acid is oxidized outside the body, as by the action of potassium permanganate, oxalic acid is formed. Adding carbolic acid to the urine, and then dropping in a solution of permanganate, I found experimentally that a gray discoloration of the urine was produced; I never observed the dark and smoky urine which is so typical of carbolic intoxication. Husemann[1] at one time believed that hæmoglobin was the cause of the colour. He afterwards abandoned this theory, because he found that the urine cleared up when heated if an excess of the acid was added, and also because the odour of carbolic acid was given off during the process. The presence of indican in the urine undoubtedly shows that an intimate connexion does exist between it and the peculiar coloration of the urine. Time and further investigation alone can tell us whether this is the whole of the truth regarding the matter, or only a portion of it. According to the older views, carbolic acid was a normal constituent of the urine. Hoppe Seyler[2] has shown that this is unlikely, because carbolic acid cannot be obtained from normal urine by distillation, even with the addition of acetic acid.

Other Secretions.—Carbolic acid has been observed by Hoppe Seyler in the saliva, and by Salkowski in the sweat, in their respective experiments on animals. Neither mentions in what form it was eliminated, though the probabilities are that it was in the form of indican. No observer makes any statement as to the presence or absence of carbolic acid in the biliary secretion in cases of carbolic poisoning.

Pathological changes in the kidneys have been very generally observed. Prof. Bruckmüller, associated with Neumann[3] in his experiments on animals, found the cells of the liver and kidneys in a state of fatty degeneration. Dr Bradford,[4] in the fatal case which he reports, found the kidneys increased in size and congested, especially in their cortical portions, while the microscope revealed fatty degeneration of the convoluted and straight tubules. In Rendu and Patrouillard's case "the kidneys were deeply congested, with some spots of effused blood under the capsules and in cortex; the tubuli were perfect, but their epithelium fatty and completely congested." In a case related by Bantock[5] the kidneys were enlarged and deeply congested. Husemann, however, states that fatty degeneration of the liver and kidneys is neither in man nor in animals a constant phenomenon of carbolic acid poisoning.

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[1] *Zeitschrift des Allgem. Apotheck. Vereines.*, Jan. 1872.

[2] *Pfluger's Archiv*, 1872, Bd. v. p. 470.

[3] *Archiv für Dermat. und Syph.*, 1869, i. p. 425.

[4] *Boston Med. and Surg. Journ.*, March 1881.

[5] *Medico-Chir. Trans.*, 1881, vol. lxiv., p. 103.

Catarrh of the bladder is said by Küster to be a symptom of carbolic poisoning. In Mr Joseph Bell's[1] fatal case there was a congested appearance of the bladder, "and here and there diphtheritic-like patches and scattered punctiform hæmorrhages."

In cases of internal carbolic poisoning, where the patients died asphyxiated, the liver, kidneys, spleen, and, indeed, all the internal organs, have been found engorged with dark, imperfectly coagulated blood. This would seem to prove that the entire venous system was in a state of general dilatation and congestion. This asphyxiated condition must be due to a paralysis of the vagus. Labée states that although changes occur in the blood corpuscles when carbolic acid is added to the blood outside the body, in cases of poisoning no change can be detected microscopically. This would eliminate any direct action of the acid on the vascular system as a cause. Clearly, then, the venous condition of the blood must be due to a failure of the pneumogastric nerves or centres to carry on properly the respiratory functions, but possibly, also, in some measure to the congested condition of the lungs and the general depression of the circulation.

Notwithstanding this detailed review of the action of carbolic acid on the various organs and functions of the body, we have to confess ourselves unable definitely to answer the question, What becomes of all the carbolic acid in the system? Undoubtedly the greater portion is eliminated by the various secretions of the body, especially by the urine. The lungs, also, in a lesser degree, rid the system of carbolic acid. But is this all? There are strong presumptions that, beside these channels, there are ways and means in addition, but of what nature must, I fear, be left an open question. Since carbolic acid possesses the power of coagulating albumen, can it be that it forms some absorbable combination with the albumen, and is thus got rid of by the system? Or, again, can carbolic acid be formed into an alkaline carbolate, and so rendered innocuous? Questions and theories such as these are no doubt interesting, but with our present knowledge on the subject they are incapable of solution.

ARTICLE V.—*Note on Treatment of Warts on the Genitals by Chromic Acid.* By Dr CADELL.

(*Read before the Medico-Chirurgical Society of Edinburgh, 7th March* 1883.)

So long ago as 24th January 1857 there is an account in the *Lancet* of that date of some cases of warts on the genitals treated by Mr John Marshall, at University College Hospital, with chromic acid. In one severe case, after having tried all manner of caustics with only temporary benefit, Mr Marshall found the application of chromic acid, gr. 100 to ℥j. of water, quite successful, and much less painful than any other escharotic he had tried. In the *Lancet* of the same year Dr Key of Arbroath describes a case of a warty growth affecting the nose and upper lip, in which the acid was applied with most satisfactory results and very little pain. Since then cases have appeared from time to time in the journals, showing the efficacy of the treatment of warts by chromic acid; but I believe the usefulness of this treatment has not been so much recognised as it deserves to be, and on that account I have taken the liberty of making this short communication to the Society.

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[1] *Edin. Med. Journ.*, May 1881.

While speaking of the application of nitric and glacial acetic acids to warts, in the second edition of his work on *Syphilis and Local Contagious Diseases,* Mr Berkeley Hill states that "chromic acid is more powerful than either of the preceding, but it causes severe pain." My experience of the use of chromic acid is, that it makes warts on the genitals disappear with marvellous rapidity, and that the pain from it is markedly less than after the use of any of the other numerous escharotics I have tried.

Mr Marshall recommends a lead lotion to be applied after using the acid, "to relieve the subsequent soreness," but this precaution against pain is hardly necessary. It has been recommended to use a glass rod for the application of the acid; but as chromic acid does not burn vegetable textures, I have found some cotton-wool tightly rolled round the end of a pair of artery forceps a more accurate and handy instrument for its application. There is by this method less risk of injuring the surrounding healthy mucous surface.

One hundred grains of the acid to one ounce of water is a sufficiently strong solution for ordinary cases. The warts should be carefully dried before the acid is used, and afterwards dry cotton-wool applied. Chromic acid efficiently takes the place of ablation by the knife or scissors, and has the advantage of being a bloodless method and much less painful.

It is hardly necessary to add, in conclusion, that the warts or vegetations on the genitals of which I have spoken are, like similar growths in other parts of the body, strictly local in their nature. So-called *syphilitic warts* have no existence.

ARTICLE VI.—*Note of a Case of Inversion of the Uterus occurring immediately Post-Partum, and resulting in Spontaneous Amputation.* By R. MILNE MURRAY, M.A., M.B., M.R.C.P.E., Physician Accoucheur, Western Dispensary.

(*Read before the Edinburgh Obstetrical Society, 31st January* 1883.)

THE case from which this specimen was obtained occurred in the practice of Dr Merryweather, of Guisborough, Yorkshire, and to him I am indebted for it and for the following notes.

In January 1882 the patient went into labour with her seventh child. She was then 40 years of age. All her previous pregnancies and confinements were normal. Her pelvic organs, so far as known, were then healthy. This labour was ended by the natural efforts, and the placenta was spontaneously expelled. There was nothing but a very slight amount of blood lost in the third stage. The afterpains were not excessive, but at the visit made twenty-fours after the birth of the placenta it was found that the greater portion of the inverted uterus was projecting through the vulva. The uterus was replaced without difficulty, and a firm perineal band was attached to the binder to retain the organ. There was no marked increase of the lochial discharge during the prolapse nor after reduction. It was, however, found, on the occasion of the next visit, that inversion had again occurred. Reduction was once more accomplished, and a boxwood pessary placed in the vagina. This again proved ineffective, and various forms of boxwood and porcelain pessaries were employed, but in spite of all efforts the uterus became daily inverted, and the difficulty of reducing the condition became more marked. About the fourth day post-partum evidence of constitutional disturbance began to show itself. There was great restlessness, furred tongue, and an evening rise of temperature. From this time, also, the discharges became offensive, and as the condition went on the smell became almost unbearable. The surface of the uterus became daily more sloughy and gray in appearance, and it soon became impossible to replace it. Delirium of a low muttering type set in about the ninth day; and as it was now evident that reduction was daily becoming more impossible, Dr Merryweather resolved to amputate the organ as high up as possible by means of the ecraseur or knife. Accordingly, on the morning of the fourteenth day he went to the patient's house, along with one or two assistants, prepared to remove the uterus. He was, however, met by the nurse, who said "something" had come away during the night, and she showed him in a basin a mass of tissue about the size of the fist, and giving off a horrible odour. This, on examination, was found to be the greater portion of the uterus. The vagina was carefully syringed out with carbolic lotion; brandy, beef-tea, enemata of turpentine and oil, were freely administered. Morphia injections were employed from time to time; and though the patient remained in a critical condition, suffering from symptoms of a typhoid character, she ultimately recovered. She is now quite well, and there is an occasional, though not regular, bloody vaginal discharge.

No vaginal examination has been made since her recovery, so that I am unable to give the state of the pelvis.

Dr Merryweather told me of the case in March last year, and sent me the specimen in May. As soon as it came away it had been washed in *gin*, and when I got it the offensive smell had gone. It was, however, very soft, and, hoping to harden it, I put it in spirit and water (equal parts). When it came into my hands it was a dark brown, pear-shaped mass, about 3½ inches long by 2 broad at the widest part; but on account of its softness I was unwilling to handle it, and, beyond adding a little spirit to it from time to time, I have not touched it until the other day, when, on taking it out of the jar, I find it had broken up into shreds, and has also become of a dull gray colour. I should have shown it to the Society last summer, but was unable to obtain some of the particulars until the other day, the patient having left Dr Merryweather's district.

ARTICLE VII.—*Royal Maternity Hospital Report for Quarter 1st August to 31st October* 1882. By C. HARPER BOURNE, B.A., M.B., and HERBERT RENDELL, M.B., C.M.

(*Read before the Edinburgh Obstetrical Society, 8th November* 1882.)

In-Door Cases.

TOTAL number of deliveries, 51. Number of primiparæ, 34; number of multiparæ, 17. Average age of primiparæ, 20 years 5 months in 29 cases; average age of multiparæ, 26 years 4 months in 15 cases.

Of the Children Born.—Primiparæ gave birth to 19 males, 15 females; total, 34. Multiparæ gave birth to 4 males, 13 females; total, 17. Total, 23 males, 28 females; total, 51.

Duration of Labour in Primiparæ.—1st stage, 17h. 34m. 25s. in 17 cases; 2nd stage, 2h. 1m. 7s. in 25 cases; 3rd stage, 12m. 42s. in 29 cases. Average duration of entire labour, 18h. 57m. in 20 cases.

Duration of Labour in Multiparæ.—1st stage, 17h. 57m. 30s. in 12 cases; 2nd stage, 53m. 21s. in 14 cases; 3rd stage, 9m. 45s. in 17 cases. Average duration of entire labour, 11h. 31m. 43s. in 7 cases.

Presentations and Positions.—Presentations—vertex, 47; breech, 1. Positions—L.O.A., 45; R.O.P., 3; L.S.A., 1; doubtful, 2.

Instrumental Labours.—Total, 11. Low forceps, 9; High forceps, 2. Miscarriages, 1; premature labours, 3; adherent placenta, 1; eclampsia, 1.

Mortality.—Maternal, 0; Fœtal, 3 (2 premature, 1 miscarriage); Infantile, 2.

Instrumental Cases.

Low Forceps Cases.—1. Primipara; age, 18; vertex, L.O.A. Tedious 1st stage, lasting 48 hours; the head then descended into the cavity, and remained there 5 hours. As it had ceased to make any progress, forceps were applied. Fœtus alive; mother well.

2. Primipara; age, 20; vertex, R.O.P. Persistent occipito-posterior. Mother well; fœtus still-born.

3. Primipara; vertex, L.O.A. Rigidity of perineum, and large size of fœtal head. 2nd stage lasted 3½ hours. Mother well; fœtus alive.

4. Primipara; vertex, L.O.A. Patient was admitted into Hospital seven weeks before her confinement, suffering almost constantly from false pains. These were accompanied, from time to time, by attacks of nausea and vomiting, lasting sometimes for two or three days. During these periods she was nourished almost entirely by nutrient enemata. The urine contained a large proportion of albumen, and from time to time a slight nervous twitching was observed in the extremities. In consequence of these complaints, patient was extremely weak at the time of her delivery, and it was therefore thought advisable to shorten the 2nd stage by the use of short forceps (2nd stage lasted 1h. 20m.) No tear of perineum. Mother and child did well.

5. Primipara; age, 25; vertex, L.O.A. The 2nd stage lasted 4h. 5m.; and as the uterine contractions were becoming feebler, though far more frequent, low forceps were applied. Mother well; child alive.

6. Primipara; age, 24; vertex, L.O.A. The head being unusually large, and perineum somewhat rigid, very little progress was made; and as patient was getting very weak, low forceps were applied. Perineum torn to anus. Mother well; fœtus alive.

7. Primipara; age, 21; vertex, L.O.A. 2nd stage lasted 5h.; and as pains were becoming feeble and irregular, low forceps were applied. Mother well; child alive.

8. Multipara; age, 28; vertex, R.O.P. Prolonged 2nd stage from inertia; as patient was becoming delirious, and the head was making no progress, low forceps were applied. Mother well; child alive.

9. *Vide* case of eclampsia.

High Forceps Cases.—1. Multipara; vertex, R.O.P. Patient came into Hospital, having been in labour 24 hours. On examination the abdominal walls were found to be unusually tense, and the cervix about the size of a florin and very markedly thinned out. After the 1st stage had lasted about 48 hours, during which the pains had been strong and regular, no change could be detected in the cervix; and as the patient was becoming weak and slightly delirious, it was decided to interfere. The cervix was fully dilated with Barnes's bags; on rupturing the membranes an *enormous* quantity of liquor amnii escaped. High forceps were then applied. 1st stage lasted 52h.; 2nd stage, 1h. 10m. Mother well; fœtus dead.

2. Primipara; age, 21; vertex, L.O.A. After complete dilatation of the os, the head remained at the brim for 6½ hours; and as the pelvis was evidently below the normal standard (justa minor), and

the pains becoming feeble though more frequent, high forceps were applied. Mother and child both doing well.

There were 3 cases of premature labour and 1 miscarriage. Two of the premature labours occurred in multiparæ, 1 about the seventh and the other about the eighth month. In both the child was still-born. The third case was that of a primipara about the eighth month, the child being still-born. In all three cases the mothers made excellent recoveries.

The miscarriage was about the fifth month. Child still-born; mother well.

Puerperal Eclampsia.—Primipara; age, 17; vertex, L.O.A. Admitted 5 A.M. in 1st stage, with history of having had frequent convulsions throughout the night. Bromide of potassium freely administered between attacks, and chloroform during convulsions. Urine contained about ¾ albumen. When head was on floor of pelvis, and as it was making very slow progress, low forceps were applied. Child was still-born, having probably died during a convulsion. Patient also had double pneumonia on admission, and right-sided pleurisy, but made rapid recovery, and left Hospital three weeks after confinement, without a trace of albuminuria or any chest symptoms.

Mortality.—Maternal, 0; Fœtal, 6 (3 premature, 1 miscarriage); Infantile, 2.

Puerperium.—In only 6 cases was there anything of importance in the puerperium. There were 2 cases of septicæmia, 3 of perimetritis, and 1 of scarlatina. All did well.

Out-Door Cases.

Total number of deliveries, 158. Primiparæ, 21; multiparæ, 136; doubtful, 1; total, 158. Average age of primiparæ, 20·4 years in 19 cases; average age of multiparæ, 30·1 years in 132 cases.

Of Children Born.—Primiparæ gave birth to 10 males, 11 females; total, 21. Multiparæ gave birth to 67 males, 66 females; total, 133. Total, 77 males, 77 females; total, 154.

Presentations and Positions. — Presentations — Vertex, 144; Breech, 1; Doubtful, 9; total, 154. Positions—L.O.A., 114; R.O.P., 13; R.O.A., 3; L.O.P., 1; L.S.A., 1; Doubtful, 22; total, 154.

State of Child.—Alive, 146; Still-born, 6; total, 154. Abortions, 4 (3 at 3rd, and 1 at 2½m.); post-partum hæmorrhage, 3; induced premature labour, 1; placenta prævia (central), 1; turning, 1; prolapsis funis, 1.

Instrumental Cases, 4.—Low forceps, 2; High forceps, 2.

Mortality.—Maternal, 1; fœtal, 6.

Instrumental Cases.

Low Forceps. — 1. Inertia uteri. Mother well; child alive.

2. Head remained in cavity 4 hours, and then ceased to make further progress. Mother well; child alive.

High Forceps. — 1. Multipara; vertex, L.O.A. Cord prolapsed and replaced twice; but head would not engage, owing to large size. Patient allowed to go on 4 hours in 2nd stage, when no change having occurred (head not having engaged), Sir J. Simpson's forceps were applied, but failed to bring the head down from slipping; axis-traction forceps were then applied, and the fœtus easily extracted. Mother well; child still-born.

2. Primipara; age, 18; vextex, L.O.P. Prolonged 2nd stage from large head and feeble pains. Mother well; child alive.

Induction of Premature Labour.—Multipara; age, 23; vertex, L.O.A. Premature labour induced at end of seventh month for flat pelvis. Conjugata diagonalis measured 3½ inches. Interspinous diameter 9 inches, and intercristal 10 inches. Delivered by turning 20 hours after beginning of labour. Child asphyxiated. Artificial respiration for 1 hour failed to resuscitate. Mother made good recovery.

Placenta Prævia.—Multipara; age, 38; cranial. On arrival of house surgeon, patient was almost pulseless from loss of blood, which had been extremely severe. Placenta prævia was diagnosed: os about size of a florin. Placenta was separated as far as forefinger could reach, but no placental margin could be felt; os was then fully dilated with fingers, when edge of placenta was made out. The membranes were then ruptured and child turned, one limb being brought down. The patient was now so weak, the pulse being often imperceptible, that it was not thought advisable to proceed with the labour. Ether was freely administered subcutaneously from time to time, and, later, beef-tea and whisky by mouth. About 6 hours later, after patient had slept about an hour, the pains returned, and the child was delivered still-born. Mother made good recovery.

Mortality.—Maternal, 1; Fœtal, doubtful, from imperfect return; Infantile, doubtful, from imperfect return. With regard to the out-door maternal death, the immediate cause of death was peritonitis, but patient also had phthisis.

Part Second.

REVIEWS.

The Relations of Mind and Brain. By HENRY CALDERWOOD, LL.D., Professor of Moral Philosophy, University of Edinburgh. London: Macmillan & Co.: 1879.

FIRST NOTICE.

THIS is a handsome octavo volume of 455 pages, including a carefully prepared index. It is profusely illustrated by anatomical drawings placed at the author's disposal by Professor Turner, by Dr Ferrier, and other friends, who, with praiseworthy zeal in the cause of science and a liberal desire to aid him in his studies and investigations, have in various ways contributed to the completeness of the book. Some years have been spent upon the subject by Dr Calderwood, so that the reader may enter on what we promise him will prove an interesting and profitable study with the assurance that no trouble has been spared in rendering the book worthy of a thorough and thoughtful perusal. Even the trained anatomist and physiologist will derive satisfaction from the clear and accurate exposition of ascertained facts and approved theories contained in the earlier chapters; and he cannot fail to marvel, as we have done, at the proofs which appear on every page that a professor of moral philosophy, whose antecedents placed him in a very different field of study, has been able, by determined application, to master thoroughly and describe distinctly phenomena so little analogous to those with which he had been previously conversant.

We have long felt that psychology ought to call in the aid of physiology in order that it might be reasonably and satisfactorily investigated, because the boundaries of either do not admit of being defined by any hard and fast lines, although this is a view which students of anatomy and physiology are more readily impressed by than those who devote themselves to metaphysical inquiries. It is therefore satisfactory and full of promise that a gentleman of eminence, and of ample knowledge in the departments of mental and moral science, should seriously address himself to the anatomy and physiology of the nervous system. The sphere of inquiry becomes thus greatly widened, and henceforward it will be necessary for all who would do effective work in either field to accomplish themselves for the task by seeking familiarity with both. It is quite obvious that even Dr Calderwood, although anxious to arrive at truth, and cautious in drawing conclusions—sometimes, we think, unduly cautious—is still hampered by his early preconceptions, and, when no longer supported by the precise results of experiment, fails to perceive that mind, in its intellectual, moral, and religious manifestations, cannot be dissociated from that organic structure with which he willingly connects both sensation and muscular action. He understands and appreciates all the ascertained facts of the sensori-motor, or, as it has been called, the reflex system of nerves; he admits, also, that a volition, or exercise of will power, can cause the motor cells of the gray matter of the brain to transmit an influence along the nerve fibres to a muscle, calling its motor power into action; he admits that the action called forth in these circumstances may be inhibited by a change of will; but he holds that all higher manifestations of mind are above, beyond, outside, so to speak, the gray portion of the *cerebrum*. He strives to show that the common idea that the great mass of the human brain—and *a fortiori* in the lower animals—is entirely occupied with sensations and with muscular action, and that all the nobler manifestations of mind are independent of those elaborate arrangements of *convolutions* and *sulci* which constitute so marked a feature of the human brain. The reader of the volume before us will soon discover that such is the idea which gradually and continuously grows and takes shape as the argument proceeds, until it receives full expression in the concluding chapters. We must acknowledge a feeling of disappointment at this conclusion, because we think the evidence all tends in the opposite direction; and we can only account for our author's missing his way, as we think, by the predominating influence of his earlier studies.

We shall try, as far as limited space will permit, to follow him in his argument and indicate its weak points as they occur. But before doing so a few preliminary observations may be permitted in explanation of our own standpoint.

We believe that in the present system of things, to use a common form of expression, mind and brain are intimately connected. The mind or soul can exist, and after death will exist, separately from organic structure; but *now*, in this life, they are normally associated. We do not say that mind is a function of brain in any other sense than that it works and indicates its existence by means of brain. The statement of Cabanis, that "the brain secretes thought as the liver secretes bile," is both foolish and profane; but a healthy, well-formed, ample brain is the usual concomitant of an active, well-balanced, powerful mind. The brain is not the cause of the mind; but universal experience and observation of mankind declare that a small, misshapen brain limits the action and manifestations of mind. Independently of all theories as to the form of cranial development, and all attempts to connect the outward shape with particular mental qualities or moral propensities, the common consent of men in all ages has associated force of intellect more or less with capaciousness of brain. And we have no doubt that all our readers have reached the same conclusion by passive personal observation. There may be exceptions to this rule,—and some individuals have greater powers of observation than others,—but most people, on recalling persons they know or have known, will acknowledge that those pre-eminent for their superior mental attainments have never possessed a manifestly imperfect or defective cerebral development. The opposite is sometimes met with—stupid or commonplace persons with impressive heads; but this combination will usually admit of explanation on unprejudiced inquiry.

We believe that the gray matter of the cerebrum, rendered so extensive by the deep *sulci* separating the convolutions, is really the organ through which the soul, the will, the *ego* manifests itself at once in muscular action and in the other more characteristic and higher evidences of its presence and qualities.

We believe, also,—although this is a department of the subject almost systematically ignored by Dr Calderwood,—that there is good reason to surmise that certain portions, more or less definable, of the *vesicular* structure of the cerebrum are connected with corresponding intellectual faculties and moral tendencies; but this is a point to which we shall return at a later period of our discussion.

Before directing attention to the views advocated by our author, let us give a condensed *résumé* of the full and interesting account with which he presents us of the experimental researches conducted by Ferrier and Hitzig, confirmed by a reliable committee in New York and by MM. Corville and Duret in Paris, on the brains of fishes, frogs, pigeons, rats, rabbits, guinea-pigs, cats, dogs, jackals, and monkeys. Proceeding upon the assumption that certain parts of the superficial gray matter of the brain have determinate functions, Dr Ferrier, the *avant-courier* in these researches, commences his experimental inquiry by placing the animal under the influence of an anæsthetic, such as chloroform. He then exposes the surface of the brain, and applies, by means of an *electrode*, a faradic current of electricity to a selected point of the surface of the brain. We shall suppose the subject to be a monkey, an animal in which the brain is somewhat allied in form to that of man. He notes the effect, and repeats the experiment until it appears indubitable that a uniform result has been obtained. He has thus identified some fourteen or fifteen centres, chiefly clustered upon the central portion of the organ; four extending along the mesial line where the hemispheres approach each other, the most anterior of the four being on the frontal portion, the most posterior approaching the occipital portion. When the *electrode* is applied to any of these so-called centres a muscular action of some kind follows. At one centre the movement of a hind leg is the result; at another, the movement of a fore leg; another centre seems to provide for "complex movements of the thigh, leg, and foot, with adapted movements of the trunk, by which the foot is brought to the middle line of the body, as when the animal grasps anything with its foot, or scratches its chest or abdomen;" another centre superintends certain movements of the tail, generally associated with some of the movements already alluded to. These two last centres cannot be completely dissociated. They are specially employed, it would appear, when the animal grasps anything with its hind foot. The *former* of the two centres disappears from the brains of the cat, dog, and jackal, who do not possess this grasping power in their hind extremities; but the *latter* of the two, being concerned with movements of the tail, appears in all. "These facts," Dr Calderwood justly remarks, "seem to warrant these two conclusions—that any form of activity peculiar to one animal or to a limited group of animals, in contrast with others, will have a special portion of the brain connected with the regulation of such movement; and when any movement is common to a large series of animals, there will be a common centre for producing the movement which is equally habitual with all." Five additional centres are all concerned with movements of the mouth. A large centre, covering a portion of the two upper divisions of the frontal lobe, is concerned with movements of the eyes and head. Under electric excitation of this centre "the eyes open widely, the pupils dilate, the head and eyes turn towards the opposite side." Towards the back portion of the upper middle lobe are six small centres, all of which are concerned with the movement of the eyes. When the three anterior of the six are stimulated there is a movement of the eyes towards the opposite side, with an *upward* direction; when the three posterior centres of the group are stimulated there is a movement of the eyes towards the opposite side, with a *downward* direction. With stimulus of any one of these centres the pupil contracts, and there is a tendency to close the eyelid, as if under a strong light. The wide separation of the large centre in front from these six centres behind deserves special consideration. It appears, as Dr Calderwood remarks, to favour the conclusion that there is within the organ a most elaborate system for combining different portions of the brain. This associated action is made to appear by stimulation of another centre in the lower middle lobe (*temporo-sphenoidal*). There is "a pricking of the opposite ear," but this is combined with turning of the head and eyes to the opposite side, while the pupils are widely dilated. There is another centre situated quite on the lower portion of the temporo-sphenoidal lobe. This, concerned as it is with the nose through the olfactory nerve, has some degree of association with one of the centres already spoken of as connected with the movements of the mouth. When the *electrode* is applied to it there is a twisting of the lip and nostril on *the same side*. This movement causes a partial closure of the nostril, as when a pungent odour is applied. "Similar reaction is produced by the direct application to the nostril of a powerful or disagreeable odour." This is manifestly a reflex action, and is invested with additional interest when we take into account the fact that an analogous centre is found in the dog, cat, and rabbit, in all which animals the olfactory nerve, with its large olfactory bulb in front of the brain, is conspicuous.

It may be mentioned here that a good deal of uncertainty exists as to the nature of these actions, which experiment seems to connect with certain centres of a limited portion of the gray matter of the cerebrum. Are we justified in regarding them as voluntary? Are they reflex? or do both characters belong to them? This last conclusion is probably the correct one.

We now have to deal with a very important, although negative, result of experiment which Dr Ferrier and other physiologists have arrived at. It is this. The centres marked out on the surface of the brain occupy a limited portion of it; the remainder, which may be described generally as the anterior portion of the frontal lobe, the occipital lobe, and the concealed central lobe or *island of Reil*, gives *no response* under the application of electricity. "This absence of result is remarked in all animals hitherto subjected to the test, and the portions of the brain which remain *silent* are analogous." "Over the central portion of the organ, both in its upper and under division, response is promptly given, but the front region and the back give no sign." What interpretation are we to put on this fact? Anatomical research fails to explain the difference of result, because it is beyond question that *sensory* and *motor* nerves are distributed together to all the lobes and to all the convolutions in each. The occipital lobe, no doubt, is prominently connected with sensory tracts; but, on the other hand, the frontal lobe, which remains equally *silent*, is prominently motor, so far as anatomical testimony indicates.

Dr Ferrier in three different cases removed the entire frontal lobes of a monkey, the individuals operated on being "selected on account of their intelligent character." What was the result? "The animals continued to eat and to drink heartily, and to exhibit no signs of physical prostration. Besides, the sensory faculties, sight, hearing, touch, taste, and smell, remained unimpaired, and the powers of voluntary motion were retained." But—and this is very important—"instead of, as before, being actively interested in their surroundings, and curiously prying into all that came within the field of their observation, they remained apathetic or dull, or dozed off to sleep, responding only to the sensations and impressions of the moment, or varying their listlessness with restless and purposeless wanderings to and fro."

Dr Calderwood does not adopt the conclusion which seems the natural one, that the portion of the brain removed is connected to a large extent with intelligence and will, so far as these are possessed by the monkey; but finishes the chapter with remarking, "The limited and restricted evidence at command seems to point to the general inference that the governing power for the brain, as a whole, involving the co-ordinated and regulated use of all its functions, comes from the frontal region." This inference is quite in accordance with the view which he afterwards announces more decidedly, that the whole cerebrum has ample employment in maintaining and regulating *sensori-motor* action. Of course, this is independent of the reflex *sensori-motor* actions which the other portions of the system, notably the spinal cord, have to do with. Our author devotes a long chapter, immediately following that which ends with the foregoing inference, to a very interesting and instructive comparison of the structure and functions of brain met with in the lower and higher forms of animal life. We have read it more than once with much satisfaction, and recommend it to all our readers, whether anatomists or not, as conveying a luminous view of structure, and, at the same time, of its probable connexion with the characteristic habits, the intelligence, and the possible attainments of the various species of animals brought under notice. We doubt, however, if Dr Calderwood succeeds in accounting for the superior development of the *cerebrum* observed in certain animals by either the complexity or the bulk of their muscular system. Our space forbids any lengthened reference to details, but a few of the more salient observations may be adverted to. In drawing an interesting comparison between the brains of the rabbit and of the cat, the marked superiority of the latter in size, form, and complexity of structure is connected by Dr Calderwood with the far more energetic and concentrated use of muscular power which beyond question it possesses. No doubt a passing reference is made to the higher features of life discovered by observation of the two animals; but our author, while admitting that much more can be made of a young cat than of a young rabbit when brought daily under the influence of a household, does not give this consideration the emphasis which it ought to have in prosecuting his inquiry.

The brain of the dog next comes under consideration. It is larger relatively than that of the cat, "and is more fully developed, both in the frontal region and behind." The "leading convolutions are more fully formed and more clearly distinguished throughout their course. The internal structure has a close resemblance to that observed in the human brain; there is a distinct *corpus callosum;* while the *corpora striata,* composed mainly of *motor* nerves, the *optic thalamus,* composed mainly of *sensory* nerves, the *corpora quadrigemina* and *pineal gland,* are all conspicuous." Having adverted to these facts, our author adds: "Thus we have in this case a still more important brain before us than that of the cat. In accordance with this, it will be readily allowed by all that we have a superior intelligence in the dog." Of course this is indisputable, and hardly needed, for confirmation, the very interesting and beautifully expressed illustrations adduced by Dr Calderwood. We wonder, however, that a mind so acute, and at the same time so careful in its inductions, should attach so little importance to the light which these anatomical and psychological facts mutually throw upon each other.

The brain of the horse next demands attention. It presents "a beautiful example of brain structure;" "the advancement in development of brain is striking and important;" "the convolutions are peculiarly fine;" "the doubling or twisting, which is a marked feature here, illustrates quite decisively the rule that by this method provision is made for storing a larger amount of the gray matter, and extending its surface for supply of nourishment carried through the bloodvessels of the *pia mater.*" The olfactory bulb, with its distinct nerve track, is very conspicuously developed. That the horse stands high among the animals for intelligence is acknowledged by Dr Calderwood, and he gives some very marked cases in illustration; but he evidently places the horse lower in the scale than the dog. This estimate, however, may be disputed. The animals, from their different surroundings and the services required of them, can hardly be compared; and we suspect that in its natural circumstances, where its faculties are allowed free scope, a higher estimate may be justly formed of the horse. It should be borne in mind that individual horses as well as dogs give very different indications of qualities which claim to be regarded as intellectual and even moral. Some dogs have a peculiar aptitude for one kind of service, some for another; and so far as temper and courage are concerned, there is a marked difference in horses. The horse's brain has never, we believe, been experimented on with the faradic current; but analogy or homology warrants us in supposing that a "*silent*" *region* exists in his brain, as in the smaller animals already spoken of, and it seems highly probable that the varieties in intelligence and other psychical qualities are explicable by varieties in those frontal and occipital lobes which are so exceptionally developed. Surely this line of argument will commend itself to most minds as more reasonable than that followed by Dr Calderwood. Having taken for granted that the horse is really lower in the scale of intelligence than the dog, he explains why this should be the case, when the organism of the brain is more complex, by saying that there is a much more complex muscular system to be controlled, and that this more highly organized system of nerve-centres is the regulating force which belongs to the body of the horse. But we doubt both assertions. The brain of the horse is not manifestly more complex than that of the dog; and if the muscular force of the horse is greater than that of the dog, he has both a larger body and a larger brain.

Let us now look at the brain of the monkey. "It is a brain of simple or unfolded convolutions." With this exception it resembles the human brain, having "not only the Sylvian fissure, but the fissure of Rolando coming from above, and a third fissure separating the parietal from the occipital lobe. The front portion of the brain is less folded in the monkey than it is in either the dog or the horse. "The posterior region is more distinctly formed than in the brain of the dog and horse; it is even more sharply marked off than in the human brain," and even covers the cerebellum, which is here quite underneath the brain proper. In organization, however, "the occipital lobe of the monkey is of the simplest order." "There is a combined use of teeth and fingers possible with the monkey which is not possible with the dog, and thus far the former has advantages over the latter in respect to the appliances at command. But even with these advantages the intelligence of the one cannot be represented as equal to that of the other." These statements are quite in accordance with our view regarding the "*silent*" portions of the brain. The frontal portion, being devoid of convolutions, has a much smaller surface of gray matter than in the dog; and when the occipital lobe is described as more distinctly marked off than in the human brain and overlapping the cerebellum, we regard that as merely an *alteration in place,* not giving any "evidence of superiority" to a part, "the organization of which is of the simplest order." "The monkey," our author says, "is in every way less under command of man for training than the dog, and less fitted for companionship." This is just what we would expect, looking at its brain as a whole, and remembering the complete provision that there is, according to Ferrier's experiments, for special muscular actions.

We must now deal with the brain and faculties of the anthropoid apes, including the gorilla, the chimpanzee, and the orang. These animals, as their name implies, resemble man rather closely in their outward form; but betwixt them and him, intellectually and morally, there is an immense gulf. The brain of the chimpanzee is wonderfully like the brain of man externally, and even internally on dissection. Its weight is never more than one-half of the human. The smooth frontal and occipital lobes in the monkey become more elaborate in the chimpanzee; but the convolutions are much less numerous than in the human. The frontal lobe is considerably developed in form, but wanting in depth; the same may be said of the occipital lobe, which is more closely analogous in complexity of arrangement to the human, though also deficient in development downward. There are no facts sufficiently ascertained as to the minute internal, the histological, structure of the gray matter; but in the structure and relations of the *basal ganglia* the brain of the ape resembles the human; the *corpus callosum* is both shorter and thinner than in man; the size of the nerves is very decidedly larger.

Dr Calderwood presents his readers with a carefully drawn up account of all that is reliable as to the habits, mental characteristics, and muscular power of the anthropoid apes. The result is, that their mental faculties are very limited in their natural state; but they possess—at least the chimpanzee—an *imitative* tendency which gives the semblance, if not the reality, of some attainments under training. "With a brain formed in much closer analogy with the human brain than that of the dog, and, even more obviously than the dog, 'walking about with men as if it belonged to the company,' it does not show the dog's power to appreciate man's wishes, or to fulfil them by a course of well-directed effort when beyond its master's sight. Greater in muscular development, and decidedly nearer the elevation of humanity in the structure of the brain, the ape is intellectually inferior to the dog and the horse."

Now it must be apparent to every one that we have reached a very important and almost crucial stage in this argument. The case may be stated thus:—The brain of the larger apes resembles, in its broader features, the brain of man more closely than any other brain with which we are acquainted; yet the mental manifestations are very inferior,—inferior certainly to those of the dog and horse. How are we to explain the anomaly?

Dr Calderwood, after giving a lucid summary of the facts already referred to, says, "The brain of the ape, when compared with that of man, supplies the clearest proof presented anywhere by anatomy and physiology that the structure and form of the brain is no sure index of intellectual power." From his point of view there is much plausibility in this conclusion; but let us look closely at the grounds upon which it rests.

The larger apes, like monkeys, are quadrumanous—both extremities are virtually hands. This implies, in accordance with Ferrier's experiments, that those centres which respond to the electrode are very amply developed,—in certain parts probably more amply than in man himself,—although, of course, the finer details of muscular action in the upper extremities may be less minutely provided for. The nerves of motion and sensation in the ape, with a smaller brain, are larger than in man, showing clearly that a greater proportion of the cerebral mass in the ape is occupied with muscular force and action. This is just what we might expect in animals who are known to possess and put forth extraordinary muscular power. The brain of the ape is like the brain of man, but not more so than his general outward frame. The latter has considerable resemblance to the human frame, but, when carefully examined in detail, can only be regarded as a hideous caricature. So is the brain, if closely inspected. The largest and heaviest is not equal by one-third to the smallest specimen of the human brain, even in an idiot; the convolutions are much fewer in number, especially in the *frontal* and *occipital* lobes—those portions which in all animals hitherto experimented on give no response to the faradic current; and we must bear in mind that no reliable histological comparison has as yet been instituted betwixt the vesicular structure in the corresponding lobes of the larger apes and of man. Taking these facts into full consideration, we see no adequate reason for adopting Dr Calderwood's conclusion, or abandoning the opinion which previous evidence seems to support.

An interesting *résumé* is next given of what is known of the elephant—its adolescence, its strength, its habits, its indications of intelligence, and its peculiarities of temper. These statements are compared with its cerebral development, which exhibits a rather complex arrangement of convolutions. The frontal region is more extended and more varied in form than the portion lying behind the Sylvian fissure, which in this animal runs almost directly up to the vertex, nearly dividing the organ into halves. Dr Calderwood, true to his preconceived opinion, remarks, "When this brain is taken along with others, such as that of the horse and the ape, it is evident that as the brain becomes large and elaborate in convolution it stands in close relation with large muscular development. The muscular power of the elephant is well known, as tested by the large weight which it can draw or carry on its back."

That a *large part* of the brain of the elephant should consist of those centres which, in the small animals experimented on, "*respond*" to the electric current, we willingly admit; but we believe that the "*silent*" portions in front and behind are large enough to account for the intelligence, the courage or timidity, the jealousy or revenge, and other indications of temper which elephants are said to exhibit. We demur to the accuracy of the statement, however, that, in accordance with all its well-known muscular strength, the elephant has a large brain. Large in the region which presides over muscular force it probably is, but not large as a whole, when we consider the huge dimensions of the animal. "Internally the cranium consists of light cellular bone of very open construction. The walls between the cells are as thin as note-paper. The cells differ in size; the largest has a capacity of about two wineglasses. There are no powerful bones, except one knob in front; a walking-stick may almost be driven through an elephant's skull from the sides. The only vital portion of the head is the brain; this lies low and far back. In a very large male elephant, say 9½ feet at shoulder, its (the brain's) extreme length horizonally is 12 inches, and vertically 6 inches. Its shape is somewhat oval." Compared, then, with the human brain, or even that of the ape, the brain of the elephant is small, when its ponderous frame is taken into account. So that it will all be needed, according to the theory that bulk of convoluted surface is needed for intense muscular power. But we still cling to the idea that the anterior and posterior lobes (at any rate) have to do with the manifestations of intelligence, temper, and parental feeling so noticeable in the animal's history.

The same remarks are applicable to the whale, which Dr Calderwood regards "as an example of very great interest in its relations to all the problems involved in the comparative anatomy and physiology of brain structure." We fully admit this, but have no hesitation in holding that the brain even of the whale has higher functions than merely presiding over a muscular system, however tremendous in its power. The facts are these:—The convolutions are wonderfully elaborated and beautifully arranged; that is to say, they are both numerous and small. Dr Major has shown that one of the chief differences between the brain of the whale and that of man is a relatively smaller number of large nerve-cells in the third layer of the gray matter of the whale's brain. "The brain is decidedly small relatively to the size and weight of the animal's body." "It lies in a small cavity in the upper and back part of the skull. The cavity included within the *pia mater*, exclusive of the *foramen magnum*, measured only 8 inches by 5." "The quantity of brain in a human subject of 140 or 160 pounds weight is, according to Haller, 4 pounds; in the case of a young whale, 19 feet in length and 14 feet 5 inches in circumference, described by Dr Scoresby, which weighed 11,200 pounds (5 tons), or seventy times the weight of a man, the brain weighed only 3 pounds 12 ounces. According to Cuvier, the brain in man varies from one thirty-first to one twenty-second part of his weight, whereas in this animal the proportion of brain was only a three-thousandth part."

It must be borne in mind, however, that the use and object of convolutions appears to be to increase the area of gray matter, and to make suitable provision for blood supply in a space, for other reasons, limited. "If these things be admitted," says Dr Calderwood, "we have a further indication of the conclusion supported by the brain of the elephant, that cerebral structure has at least one measure of the intricacy of its convolutions in the mass and power of the muscular system which it controls."

We do not object to this inference thus limited; but we require some mode of explaining, over and above mere muscular force and action, the manifestations which even the whale gives of a certain amount of intelligence, and particularly of that strong affection for its young which has been often noticed. We feel the importance of fixing attention upon that point here as well as in our previous criticisms, because it manifestly has a very important bearing on the conclusion we hope to arrive at in considering the relations of the human brain to the higher manifestations of the intellect and moral sentiments. It seems unreasonable, when physiology has connected all the senses with portions of the cerebrum, and still more recently discovered, by precise experiments, that certain groups of muscles are controlled by centres more or less defined of the gray matter, it seems unscientific and unreasonable to doubt, in the face of many indications to the contrary, that the remaining portions, from which electricity and other stimulants have failed to elicit any "*response*," have no connexion with psychical manifestations.

Dr Calderwood, at this stage of his argument, which eventually terminates, as we have already hinted, in the conclusion that brain is not the organ of mind in man, seeks to evade the question we have raised, as one "too large and too beset with perplexities to be treated as a side issue in such a work as the present." We do not see that this can be conceded as a reason for not entering upon the discussion at the very stage which he has now reached. His book professes to consider the relations of mind and brain. He has traced the nervous system from the lowest creature up to man himself, both anatomically and physiologically; he has promulgated his belief that the development of brain is very closely associated with either the complexity or the power of the muscular system, in a manner foreclosing and settling the very question which he seeks to evade. He calls it a side issue; but surely it rises as directly, as clearly, and as fairly for consideration as any other part of the discussion. It yields to no other in importance or in interest as bearing on the professed subject of the book. The fifth chapter ends with these words:—"I am contented, therefore, with indicating that my main argument is not affected by the theory which may be adopted as to animal intelligence and activity. Whether animals be regarded as mere automata, or a soul be attributed to those obviously high in intelligence, the evidence on which I depend and the argument which I am endeavouring to construct are not essentially modified." What evidence, and what argument? may be naturally asked. The book professes to investigate a recondite and difficult subject in all its relations. What are the points requiring evidence and calling for argument, if the question referred to is excluded by being regarded as a side issue?

Diseases of the Prostate. By Sir HENRY THOMPSON. Students' Edition. London: J. & A. Churchill.

THIS edition of a standard work from a master's hand is a boon not only to the student, but to the profession at large. We congratulate Sir Henry Thompson on the success of his cheap editions, and feel sure that this one will be heartily welcomed. It is unnecessary to make extracts from this book, seeing it is certain to find its way into the majority of libraries. But we shall venture to notice some points in the way of criticism.

The author dwells strongly and at considerable length on the similarity between the prostate in the male and the uterus in the female. He also goes very fully into the treatment, inappropriate as well as appropriate, of enlarged prostate. It seems strange to us that in so doing he never mentions ergot as a possible remedy. If the analogy between the prostate and uterus is as close as he would make out, ergot ought to have some action in reducing enlargement.

Another thing we have noticed is that, in speaking of the treatment of complete retention from enlarged prostate—that is, when an instrument cannot be passed into the bladder—Sir Henry Thompson refers at great length to the operations of puncturing the bladder from the rectum, above the pubes, and through the symphysis, while the safer and surer operation of aspiration receives but a few words. This latter method of relieving complete retention, from whatever cause, does not, we think, get the prominence it deserves. Our author says, "In most cases the simple operation by the aspirator suffices, and should, in the first instance, be adopted. This should even be repeated a few times." After "failure by such means," we are told, "puncture through the rectum is an easy and safe mode of giving exit to the urine." We do not consider this sound teaching. The aspirator may be safely and easily used more than "a few times." We have known it employed for several days as the only means of emptying the bladder. And when by its means the more aggravated symptoms of retention have subsided, it may reasonably be expected that a passage by the natural route will be made more easy. In fact, we have seen this not unfrequently occur. The operation of puncturing the bladder through the rectum used to be called the Edinburgh operation. We have not seen it once performed during a period of more than twenty years.

We take the liberty of differing from Sir Henry Thompson in regard to his statements on the subject of tubercle of the prostate. He says that the disease is very rare, and never occurs alone. Perhaps it is more common in Scotland than in England. Certainly we have seen several cases in the Royal Infirmary here. As to its occurring always along with deposits in other organs, of course that will appear prominent if we are guided by post-mortem examinations, as our author seems to have been. It is natural to expect that those who die with tubercular disease of the prostate will have tubercle deposited in other organs as well.

This idea of tubercle of the prostate never occurring alone seems to have impressed Sir Henry Thompson with the opinion that the disease is incurable, for we get nothing about curative treatment in the short chapter devoted to this affection. That curative treatment is possible is well known to us, for we have seen a case where a perineal incision was made to relieve a tubercular prostatic abscess, the tubercular matter scraped out, and a free drain maintained till a cure resulted.

On the whole, we have great pleasure in recommending this book to the profession. It will well repay a careful reading. It is invaluable as a work of reference, and must be considered our standard text-book on diseases of the prostate.

The author has spared no pains or trouble in bringing together materials. The number of writers, ancient and modern, referred to is very large, though they are not tabulated at the end in the formal manner adopted in German works and copied by some of our own writers. The work done is thorough, from the anatomy of the gland, through the various diseases, on to possible complications and their treatment. In short the book is a monument of years of hard and careful labour.

The "get up" of the book is simple, but at the same time firm, and not flimsy. The publishers have supplied a neat and handy volume which will not disgrace any library or table.

Epitome of Skin Diseases, with Formulæ for Students and Practitioners. By the late Tilbury Fox, M.D., F.R.C.P., and T. Colcott Fox, M.B. Third Edition. London: H. Renshaw: 1883.

This edition has been revised by Dr Colcott Fox, who has re-written and expanded many passages. We are not, however, partial to epitomes. Information conveyed in meagre language is seldom long retained in the mind. Since the book before us is printed in a small though clear type, and extends to over a couple of hundred pages, it will be found to contain—no doubt in a somewhat condensed form—a great deal of useful matter on the subject of which it treats. This is possibly ample, in many cases, for all ordinary purposes, but here and there the details are even for these insufficient. Thus eczema is dealt with in ten pages, two and a half of which are devoted to treatment. The most has certainly been made of the space, but nothing more than the baldest sketch of its management could be crammed in. This is unfortunate when the importance and frequency of the affection are considered. Some excellent hints on the mode of studying skin diseases are conveyed in the opening chapter, which any one may read with advantage, and much the same may be said of the remarks on the causes of skin diseases, their diagnosis, and the general principles of treatment. The diseases themselves are arranged alphabetically, a plan which, while it admits of easy reference, yet tends to dissociate natural allies. With the descriptions no fault can be found, though ever and anon one comes across a word which sounds strange, or a phrase which strikes one as awkward. These are minor faults, however, and in an epitome one cannot expect the easy style of a treatise where space is a secondary consideration. The formulary at the end will be found very complete in external remedies. Only a few prescriptions for internal use are given, and of these mercurial preparations form nearly one-half. Should any one wish a concise work on skin diseases, this will be found suitable.

The Essentials of Bandaging. By BERKELEY HILL, F.R.C.S. Fifth Edition. London: Smith, Elder, & Co.: 1883.

THIS little book is very complete, comprising not only instruction in bandaging, but also in the treatment of fractures and dislocations, the administration of chloroform, and methods of dressing wounds. One very useful chapter is on what are termed "surface-guides and landmarks." The work is the best manual on the subject that we have seen.

Chapters on Evolution. By ANDREW WILSON, Ph.D., F.R.S.E., F.L.S., etc. Second Edition. London: Chatto & Windus: 1883.

DR WILSON has done science a service in arranging the evidence on behalf of the evolution theory in such a way as to make it certain of an intelligent and popular hearing. A perusal of the book before us will, we think, render it difficult for any one to remain in ignorance of the reasons why this doctrine of evolution is so strongly upheld and supported by scientific men. It has been too often our lot to hear in some quarters refutations of so-called theories of evolution and natural selection which never existed save in the brains of those individuals who put them up in order that they might show how skilful they were in knocking them down. Where Dr Wilson's work may not convince it may at least help to ensure greater accuracy of statement in the discussion of the questions with which it deals. It is not merely as a scientific work that the book is to be commended. Dr Wilson's pleasant style is a literary treat, and members of our own profession who are inclined to look back, it may be even with regret, on their early days as students of medicine, when many of those facts with which Dr Wilson deals had to be crammed *nolens volens*, will find in it much that is of value, apart from the theory which it explains and defends. A tendency to dogmatism is displayed here and there, but in a teacher dogmatism is often called for. It is, however, doubtful whether every one will consider that evolution has advanced so rapidly since the domestication of the lower animals began as to enable him to agree with the author that the array of fossil horses in Yale College, "placed in graduated series, is the important proof that evolution is a ***stable*** [the italics are ours] fact."

Wild Flowers of Switzerland; or, a Year among the Flowers of the Alps. By H. C. W.

THIS is the title of a book recently published by Sampson Low & Co., London. It contains sixteen plates of flowers drawn and coloured from nature, with their names (technical and ordinary) annexed, and is the result of a long, persistent study of them in Switzerland. The book will doubtless be interesting to those already acquainted with the wild flowers it portrays, and may be a help to those who hope to see them in their native soil.

No better stimulus could be given to encourage invalids seeking health resorts in Switzerland to take walks and interest themselves in botanical research than having a work like this to help them easily to identify species.

Health Lectures for the People. Delivered in Edinburgh during the Winter of 1882-83. Third Series. Edinburgh: Macniven and Wallace: 1883.

THESE lectures, like the two preceding courses, cannot fail to do good, were it only by awakening public attention to important subjects of social well-being, and planting seeds which may, sooner or later, germinate and bring forth fruit. To those persons whom these lectures have succeeded in interesting they will now, when printed in this accessible form, prove very useful and suggestive. It is hardly fair to institute comparisons among productions treating of so many different subjects; but we may say that, in our opinion, the lectures by Professor Maclagan on "Ventilation," of Dr Cathcart on "Physical Exercise," and of Dr Cunynghame on "The Ear in Health and Disease," are very well fitted to make an impression on the classes for whom the course was mainly intended. All the lectures are good, and those, including Miss P. Blyth, who have bestowed so much time and trouble have rendered a real service to the community.

As there cannot fail to be a good deal of repetition on topics which unavoidably overlap each other more or less, the association may perhaps deem it wise to allow an interval of one or two years to elapse before a fourth series of health lectures is commenced.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LXII.—MEETING V.

Wednesday, 7th March 1883.—Mr JOSEPH BELL, *Vice-President, in the Chair.*

I. ELECTION OF NEW MEMBER.

ANDREW SEMPLE, M.D., F.R.C.S. Ed., D.S.G., Edinburgh, was elected an Ordinary Member of the Society.

II. EXHIBITION OF SPECIMENS.

1 and 2. *Dr Byrom Bramwell* showed (1) SECTIONS AND DRAWINGS OF A SPINAL CORD, stained with carmine, in which secondary descending degeneration of the crossed pyramidal tract in the lateral column, and secondary ascending degeneration of the column of Goll, were well seen in one (the same) half of the cord. The secondary descending degeneration followed an attack of hemiplegia; the secondary ascending degeneration was due to a limited meningitis in the dorsal region, which had invaded one-half of the posterior column (both its postero-external and postero-internal divisions). The case was one of considerable clinical interest; but as the gentleman under whose care it had been during life intends to publish it, only a brief abstract of the clinical history was given; (2) SECTIONS AND DRAWINGS OF THE SPINAL CORD OF A CHILD, æt. 3 weeks, in the cervical, dorsal, and lumbar regions stained with osmic acid, and mounted in Farrant's solution. These sections illustrated the important fact in the development of the cord which was discovered by Flechsig, that the great motor tracts in the cord are the last tracts to be developed. The crossed pyramidal tracts

in these sections were seen to be unstained by the osmic acid, the other parts of the white matter of the cord being stained black. The position of the crossed pyramidal tracts was well illustrated by these two sets of sections. In the one case they were more deeply stained with carmine than the other parts of the cord, in consequence of the sclerosis which was present; in the other sections they were unstained, because the nerve-tubes had not yet obtained their fatty covering, which gives the black reaction with osmic acid.

3 and 4. *Dr James Carmichael* exhibited (1) THE LUNGS AND OTHER ORGANS from a case of acute tuberculosis. The lungs were thickly studded throughout their substance, and on the surface beneath the visceral pleura, with miliary tubercles. Tubercle was found in all the other organs, as well as on the peritoneum and mesentery. On microscopic examination, numerous bacilli were found both in the lung and on the peritoneum. The mesenteric glands were enlarged, but none appeared to be softened. One or two of the bronchial glands were much enlarged at the root of the left lung, and appeared to be tubercular. The child was two years old, and was admitted into the Royal Hospital for Sick Children with the history that she was in good health till last summer, when she was attacked with pertussis. In November last she is reported to have had an accession of chest symptoms, and three weeks before admission had become much worse. There was no history of tubercular disease in the parents or other children. On admission she was found to be emaciated, and the chest presented the physical signs of bronchitis, with limited areas of broncho-vesicular breathing over both bases. The temperature ranged from 99° in the morning to 102°·5 in the evening, and the case was considered one of acute catarrhal pneumonia. She also had symptoms of gastro-intestinal catarrh. The case was an interesting one as probably showing the grafting of the tubercular contagium on a chronically diseased bronchial mucous membrane and alveoli, for the history of the case did not point to its being tubercular from the first. (2) The BRAIN AND LUNGS from a case of tuberculosis in a boy aged 2½ years, who was admitted into the Royal Hospital for Sick Children on the 24th of February. He had always been a delicate child, and there was a history of rachitis. This was borne out by the state of the teeth, which were entirely decayed. The head was somewhat enlarged, and also both radii. There were also symptoms indicating cerebral hypertrophy. The child never had convulsions, but was reported to have squinted and been subject to frequent attacks of vomiting. During the short time the case was under observation there was no insensibility, convulsion, or any other cerebral symptom, excepting paralysis of the soft palate, as evidenced by the escape of fluid from the nostrils during deglutition. Physical examination of the thoracic and other organs showed

no signs of disease. The child was much emaciated, and died, apparently of exhaustion, about a week after admission. The case was viewed as one of cerebral hypertrophy complicated with effusion into the lateral ventricles. On post-mortem examination there was found extensive disease of a tubercular nature of all the organs, more especially the brain. The meninges were extensively affected with tubercular disease over every part of the brain. The anterior portion of the cerebral surface was markedly anæmic, contrasting with the extreme congestion of the rest of the pia mater. The meningitis was especially well marked on the upper and under surface of the frontal lobes, and also the temporo-sphenoidal lobes, passing the basal portions and along the sides of the medulla and pons. The lateral ventricles were dilated and contained serous effusion. The lungs were broncho-pneumonic and emphysematous, and portions were collapsed. The mesenteric glands were enlarged. None were found to be caseous. On microscopic examination numerous bacilli were found in the tubercular portion of the lungs. Clinically the case was interesting as showing the extensive nature of the meningeal disease and the absence of well-marked cerebral symptoms.

5. *Dr Gibson* showed, for Dr Russell of Carlisle, the HEART from a case of mitral stenosis and tricuspid incompetency, illustrative of his paper read before the Society last year, along with a diagram illustrating the position of the heart as seen at the post-mortem examination. The patient was a female, æt. 21, who died on the fourth day after being delivered of twins. Dr Russell had attended her nearly two months before her delivery, being first called to her as she was suffering from the ordinary symptoms of cardiac failure. There was a loud, rough-toned systolic murmur over the præcordia. Its inferior and left limit was in the nipple line; beyond this there was a distant soft systolic murmur heard outwards to the axilla. From the nipple line inwards it presented the same loud, rough character, which peculiarity it retained as high as the second left space, where it was heard from one to two inches from the sternum. The murmur presented the same characters over the sternum as high as the level of the second costal cartilage; above this it was a soft murmur. It was also heard for a short distance in the second right space, and for a greater distance in the third and fourth right spaces. There was no apex thrill, no cardiac irregularity, no reduplication of sounds, and no presystolic murmur. There was pulsation in the second, third, and fourth left spaces—in the second from one to two inches from the sternum. When Dr Russell first saw her the veins over the upper part of the sternum were not only full, but pulsating. Under the action of cardiac tonics the area of audition of the murmur diminished, and extended when they were withdrawn. Under the former circumstances the murmur was not heard over the manubrium

sterni nor over such a large area to the right of the sternum, and this lessening of the area occurred, although over the lower part of the sternum and between the sternum and nipple the murmur was louder. At the autopsy, as shown in the diagram, the entire anterior aspect of the heart was made up of right ventricle and right auricle. The origin of the pulmonary artery was at the level of the upper border of the second left rib. The conus arteriosus extended from one to two inches to the left of the sternum in the second space, the inner part of this space being occupied by the auricular appendix of the right auricle. The left auricle and its appendix were deeply buried in the chest and quite invisible from the front. The heart showed marked mitral stenosis and a shrivelled-up condition of the tricuspid curtains which rendered them largely incompetent, as tested by filling the ventricle from the pulmonary artery. Part of a defibrinated clot, which partially lined the right auricle, was still visible. The case Dr Russell considered of interest as showing the area over which a tricuspid murmur was audible, that area corresponding precisely with the position of the right heart, as was reasonably to be expected. The patient, he might add, did not die of the cardiac condition.

6. *Dr MacGillivray* showed for Dr Watson a MULTILOCULAR OVARIAN CYST removed from an unmarried woman, æt. 37, that day, in Chalmers Hospital. The tumour had existed, to her knowledge, seven months. Menstruation had been in abeyance during that period. Tapping had been performed on five different occasions before admission, and a portion of the cyst wall seemed to have given way at the seat of the tappings. A quantity of glairy fluid such as was found in ovarian cysts came out of the abdominal cavity at the operation. Round the part where the cyst wall had given way the intestines were adherent, and through the opening a number of endogenous cysts could be seen in the interior.

7. *Mr Symington* showed a PROSTATE GLAND from a subject in the Minto House Anatomy Rooms. The interest of the specimen was that though the gland was normal and not enlarged, the openings of the ducts on the floor and sides of the urethra were so much dilated as readily to admit the point of a No. 4 or 5 catheter to enter. Such a condition might in some cases be the cause of difficulty in the passage of instruments into the bladder, more especially as most of them opened in a direction forwards, and two or three of the largest were situated just in front of the opening into the bladder.

8. *Mr Maxwell Ross* showed a specimen of EPITHELIOMA OF THE LARYNX, which he had received from Dr Hunter Mackenzie for exhibition. It was removed post-mortem from a middle-aged man who came under treatment towards the end of last year. From the symptoms and laryngoscopic appearances Dr Mackenzie was of

opinion that the disease was malignant in character; but as the patient stated that he had suffered from a syphilitic infection some twenty-five years previously, he resolved to try the effects of iodide of potassium. The drug was therefore given in large doses, and for a time seemed to act beneficially. The tumour began to diminish, and the symptoms were greatly relieved. Latterly, however, the beneficial action ceased. Dr Mackenzie then proposed extirpation of the larynx to the patient, who at once agreed, but succumbed to an attack of catarrhal pneumonia before the operation could be performed. The tumour, which involved the right ventricular band and neighbourhood, was examined microscopically by Dr Buist, who pronounced it to be undoubtedly malignant. The interest of the case was twofold—first, as an example of primary malignant disease of the larynx; and second, because of the change under iodide of potassium. This was perhaps best explained on the supposition that there was a syphilitic condition along with the epithelioma. Jonathan Hutchison, as they knew, held that tertiary syphilis of the tongue was very often the precursor of carcinoma of that organ. This case might be an example of the same thing in the larynx.

III. ORIGINAL COMMUNICATIONS.

1. *Dr James* read a paper on ANKLE CLONUS IN RELATION TO THE HEIGHT OF THE INDIVIDUAL, in which he stated that as, in his previous investigations on the subject of clonus, he had found that the nearer a muscle was to its centre in the spinal cord the more rapid was the clonus that could be produced in it, it might be supposed that the ankle clonus would vary with the height of the individual. This should be all the more the case since, as is well known, differences in height in men are mainly due to length of leg. He had accordingly timed the ankle clonus in 50 healthy individuals, taking care that the differences between them should be, as much as possible, one of height alone. In this way it was found that, although there were considerable variations, the rapidity of the clonus was, on the whole, in the inverse proportion to the height of the individual. These results were also of interest as tending to show that clonus was reflex rather than direct in nature.

Dr Byrom Bramwell said he was sure the Society felt much indebted to Dr James for working out the results he had brought before them. The question of clonus had given rise to much debate, some thinking it was purely reflex, others that it was direct, the action being entirely muscular, while a third view, held by Gowers, was that it was a combination of nervous and muscular action. Dr James's paper indicated that there was an important nerve-influence at work in bringing out these conditions. If his facts were confirmed—and they knew how painstaking and accurate Dr James was—they showed that the condition was a purely reflex one, independently of any combination such as Gowers had supposed. Numerous contradictory measurements of the time required for the production of the ankle clonus and knee-jerk had been published by different observers; but he thought investigations made by the same man under different circumstances were more reliable for comparison than those made by different observers, each acting under the same circumstances with regard to himself, but different as regards his fellows. Dr James had pointed out, at the end of his paper, that there was not much room for discussion. It was very much a matter of fact, but the working out of those facts must have cost him much time and trouble.

Dr Ireland was well pleased to hear Dr James's paper. The subject was one of considerable clinical importance. The mere question whether the phenomenon was due to the direct action of the muscle or to the reflex action of the cord did not bear exactly on the pathognomonic significance of the knee-jerk. If he recollected rightly, Dr Eulenburg had made experiments, taking the knee-jerk, in which he came to a different conclusion from that of Dr James. He allowed time for the various acts of the phenomenon, as Dr James had done, and the conclusion he arrived at was that no time was left for reflex action to come in—that the phenomenon occurred in too short a time to allow of the spinal cord being called into play. At the same time, he was far from saying that these calculations destroyed the value of Dr James's experiments. He believed that observations similar to those of Dr Eulenburg had been performed by other investigators, who made different calculations and arrived at different results. If we considered the great difficulty of timing the different acts that went to make up the phenomenon, this was not to be wondered at. We were very much in the power of these gentlemen, and these figures required to be checked. He had no doubt that in going over Dr James's figures they would find no flaw. His method was much better than that adopted by the German observer. His tract—from spinal cord to ankle—was much longer, and it was evident that in the very small time given accuracy would be better obtained by increasing the length of tract. He thought that if the experiments were confirmed they would establish that clonus was of a reflex character. He believed that Westphal was in great doubt himself as to the nature of these movements.

Dr Duddingston Wilson wished to ask, supposing that the phenomenon was purely muscular, would the length of muscle have any influence on the calculations?

Dr James was gratified to find his paper so well received. There was a considerable amount of dispute as to the cause of ankle clonus, knee-jerk, and other apparently allied phenomena. The observations tended to show that the ankle clonus was reflex. The knee-jerk he did not discuss, and it might be that it was direct as was thought, that the action was of the muscle alone.

The ankle clonus was, on the other hand, entirely reflex. He was aware that other observers had not found so much difference between the knee and the ankle clonus. Waller said that the time occupied in the performance of the two was the same. This he found to be the exception, and not the rule. The nearer the muscles to the cord, the more rapid the clonus. In two cases he had examined the knee clonus was less rapid than the ankle. One of these was in the person of a bicyclist, in whom, probably, the reflex functions of a certain set of muscles were more active than those of another set less used. He never, in a case of disease, found the ankle clonus more rapid than the knee. He had thought over the length of the muscle several times, and had come to the conclusion that it was not of consequence in connexion with clonus. Gowers had found the clonus as rapid as ankle clonus.

2. *The Vice-President* announced that, Mr A. G. Miller being absent through indisposition, his paper on AN UNUSUAL CASE OF STRANGULATED CONGENITAL HERNIA (which will appear in a future number of this Journal) would be read by Dr MacGillivray. This being done,—

Mr Duncan said that he supposed there was nothing in this world as to which they might not say they had met with something analogous. There were rarities in Mr Miller's case, but many of these rarities occurred in the practice of other surgeons. The peculiarity was the curious combination of these in one patient. The important point was the strangulation of the bowel by omentum, along with the great freedom of movement in the canal. This was of interest in connexion with the necessity for opening the abdomen in cases where strangulation occurred inside in similar ways. Another interesting point in the paper, which one might say was still *sub judice,* was the mode of dealing with the adherent omentum. There were objections to leaving it alone, and also to cutting it off. Whichever method was adopted, more or less inflammatory reaction took place. The return of a large portion of omentum, bruised by handling, gave rise to a localized peritonitis, and so did cutting it off. He had never seen a serious result from it, but he was always prepared for a certain amount of pain and tenderness after having to operate on such a case.

The Vice-President said he had recently met with a difficulty not unlike that in Mr Miller's case in the person of an old woman with a femoral hernia. There was an adherent omentum with a little bowel coming through it in the femoral sac. He made use of the omentum to fill up the canal, instead of cutting it off or returning it. There was for a few days considerable inflammatory reaction, but that soon went down, and when the patient was discharged the bowel could not be driven into the canal by coughing. There was no return of the hernia, but it would be interesting to watch the results of the case and notice whether change occurred in the natural truss thus formed. A proper truss was fitted on before she left as a precaution.

3. *Dr Francis Cadell* read a NOTE ON TREATMENT OF WARTS ON THE GENITALS BY CHROMIC ACID, which appears at page 900 of this Journal.

Dr Allan Jamieson said he had been in the habit of employing chromic acid, and found it very useful in ordinary warts in many cases. In some instances, however, it did not succeed. He had not tried it in venereal warts; but he thought its use would be very advantageous in these succulent vegetations, because of its affinity for water. He used a preparation rather stronger than that of Dr Cadell's, viz., one to one of water, as recommended by Balmanno Squire. He did not know how it would act on venereal warts in this strength, but he had found it painless when properly applied.

Mr Duncan remembered well that in Paris, more than twenty years ago, Verneuil was operating upon warts by means of chromic acid in saturated solution he thought, with good effect. On coming back to Edinburgh he used a very strong solution for a considerable time in many cases. It was impossible to deny the fact adverted to by Dr Cadell, that chromic acid had a most effective action on vegetations. But he was hardly inclined to agree with him that it was preferable to the knife or cautery. Where the warts were of large size and on the penis he should prefer the scissors as being the most rapid and least painful method. His experience was, that a number of applications of chromic acid was required in cases of large warts. If a caustic were wanted instead of the scissors, he knew none better than chromic acid. Dr Jamieson suggested that it acted better than others on account of its affinity for water. He had tried sodium ethylate, its peculiar action as a caustic also lying in its affinity for water. He did not, however, find it a generally useful method of treating either nævi or warts.

Dr Black thought the old method of treating syphilitic warts by solid nitrate of silver and black wash was very successful, and he would not wish to resort to anything else.

Dr Cadell was glad to have heard Dr Jamieson's experience on the subject. He had more experience of warts on the genitals than on the skin generally. In mucoid warts on the male genitals especially he had found its action very useful and rapid. One application made a small wart drop off in one day. Sometimes more applications were necessary. He considered that anything that relieved them of a bloody operation and the necessity of giving chloroform was a distinct benefit. With regard to syphilitic warts, the last sentence of his paper was to the effect that such did not exist.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XLII.—MEETING IV.

Wednesday, 31st January 1883.—Professor SIMPSON, *President, in the Chair.*

I. *Dr Mackenzie* showed a child, six weeks old, with a CONGENITAL TUMOUR of the sterno-mastoid. The tumour felt like an interstitial thickening of the muscle. It had not changed in size during the three weeks the child had been under his observation. The labour was normal, the swelling not being large enough to influence it.

II. *Dr Barbour* exhibited for *Dr Leith Napier* a specimen of CONVOLUTED CORD, with the following note:—

Here I show an example of knotted cord, with considerable spiral twisting. *Narration of Case.*—Mrs D. L., ætat. 22, secundipara, attended 28th December 1882. "Pains began about 2.30 P.M., severe since 5; visited 8.15 P.M. Membranes unruptured. Vertex R.O.A. Uterine inertia. Artificial rupture of membranes. In lower third insufficient head flexion; pain complained of in left inguinal region; pains only lasting about one to two minutes. External uterine friction, 'hooking down' of occiput, and support to anterior lip increased pains; a good-sized male child born about 9.50. On birth of child cord was felt encircling the neck. It was slipped over head. Third stage, 7 minutes."

Cord measured 37½ inches. About 15 inches from its placental insertion, which was central, there existed a single knot. The blood was congested at the site of the knot.

Remarks.—This case presents an example of uterine inertia from cord circumvolution. Although the second stage was actually short, being little over an hour and a half, it was quite clear that, had the pains been more lasting, very much less time would have sufficed. With the placenta non-adherent, there was a fixed pain in left inguinal region, insufficient head flexion, and inertia. The cord was of ample length, even allowing for the single coiling, so that there was no straining, yet the pains were so worthless that without assistance the case would have been considerably delayed. The knot was run down close, but the circulation could not have been seriously interrupted, as the infant was fully sized and well nourished. Nor is it likely that the knot had been formed immediately before delivery and pulled tight during parturition, as there was evidence of languid circulation on the one hand, and on the other the cord was so long that, had the knot been loosely formed previous to the pains, it is improbable that the advancing child could have tightened it. A profitable reference to our own *Transactions* may be made by referring to Professor Simpson's paper on the subject, vol. v. p. 120; also to Dr M. Duncan's remarks on a specimen of so-called 'Torsion of the Cord,' vol. iv. p. 318, which possibly bear on the spiral twisting here seen.

III. *Dr Hart* showed for *Dr Wylie* a specimen of KNOTTED CORD.

IV. *Dr Bruce* showed a KNOTTED CORD, and also an ABORTION which occurred in a patient after an interval of eight years' sterility.

V. *Dr Milne Murray* read his NOTE OF A CASE OF INVERSION OF THE UTERUS OCCURRING IMMEDIATELY POST-PARTUM, AND RESULTING IN SPONTANEOUS AMPUTATION, which appears at page 901 of this Journal.

The President said that cases of spontaneous amputation were rare, but the specimen would require a careful examination to determine that it really was the inverted uterus.

Dr Hart thought it might be a fibroid tumour which was expelled during the puerperium.

Dr Barbour asked whether a fibroid of that size in the cavity of the uterus would not have interfered with the normal course of pregnancy, or at least have occasioned hæmorrhage.

VI. The following note by *Dr David Lindsay*, on a CASE OF TWIN WITH EXOMPHALOS AND OTHER DEFORMITIES, was then read:—

The following case occurred two years ago. I took notes of it at the time, and put the specimen to be considered presently into methylated spirit, with the intention of reporting it at length. Not doing so, however, just then, the notes and specimen have remained until now, but both are happily in a state of very good preservation.

To begin with the circumstances relative to the confinement. On the 26th January 1881 I was called to attend Mrs C., aged about 34, residing at Flockton, near Huddersfield, a multiparous woman in labour for the fifth time. I set off as quickly as possible, the place being about three miles distant. On arrival I found the case advancing satisfactorily in the first stage, the os uteri dilated to about the size of half a crown, but easily dilatable. Head presentation. The pains were coming on regularly, and of moderate severity. After waiting about an hour the os was fully dilated, the membranes ruptured, and there was a very copious escape of liquor amnii. The pains now increased in intensity, and about three-quarters of an hour sufficed to have full dilatation of the perinæum, when during one very severe pain there was expelled a full-sized healthy child, alive, very vigorous, and quite normal in every respect. I then administered 40 minims of liq. ext. of ergot, and waited about twenty minutes for the expulsion of the placenta. There was no hæmorrhage. On making a vaginal examination I easily felt the root of the cord with the index finger, and so proceeded to remove the placenta from the vagina. The large mass of placenta came readily enough for a little distance, but I then felt something catch. On making a more minute and higher examination, I perceived that the membranous part of the placenta extended into the os, and was there firmly held. On introducing my finger through the os I detected a presentation of some sort, but which was certainly somewhat puzzling. After a little I thought I could make out the sharp edge of one of the cranial bones, the whole thing appearing much squashed up. The size of the uterus didn't feel sufficient to contain another full-sized child, but quite big enough for a small child squashed up, and this was the conclusion at which I arrived.

I administered another dose of ergot, and waited until the uterus regained its action. This it did in about half an hour. On making a vaginal examination I felt a presentation, but didn't distinguish any part of a child in a normal state, only the cranial bones as before. The diagnosis of another fœtus was now, however, placed beyond doubt, but the impossibility of its being alive was likewise beyond doubt.

With the aid of a few pains there was expelled a bag consisting of a placenta with unruptured membranes attached to the membranous part of the other placenta, which of course preceded the bag. On slitting up the membranes I discovered the specimen now before you, and which was bathed in but little fluid. I didn't preserve the placentæ, only noted their relation to one another. With some little difficulty, however, I succeeded in obtaining the child. I judged it to be about six or seven months developed, and this caused me to reflect. About two months before her confinement, viz., 21st November 1880, the woman was carrying in front of her a large can filled with milk. As she did so the can rested on her abdomen, and as a matter of course on the most protruding part. She stumbled, fell, and the can was driven forcibly against the upper part of the uterine region. She felt some pain at the time, but after resting a little she was able to go about again.

In the course of a day or two, however, she noticed an eruption over the uterine region in front, and this, coupled with the fact that she was then suffering some inconvenience from piles, induced her to seek medical advice. Accordingly, I saw her on 25th November, and found the eruption to be vesicular in character. This yielded to very simple remedies, oxide of zinc ointment locally, and a few laxative powders. I likewise gave her some ungt. gallæ cum opio.

From this to the time of her confinement she felt no unusual inconvenience from the uterine tumour. She made an excellent recovery from her confinement.

As regards the specimen, it is peculiar in having six digits on each hand, and also on each foot,—instances of over-development. There are also instances of arrest of development—exomphalos, double hare-lip, and cleft palate.

Remarks.—The most feasible view appears to be that the child born dead was killed by the accident which the mother sustained about two months before her confinement. That this was so is strengthened by the fact that shortly after the accident there was a sign of local disturbance, as indicated by the eruption over the uterine region. Seeing the dead child was expelled after the living, it would in all probability occupy the highest part of the uterus, and thus be more likely to be affected by the accident. As usual, no putrefaction occurred, and thus the fœtus could be retained without producing constitutional symptoms indicative of absorption of putrid matter. That putrefaction does not occur is doubtless explained by the fact that there is no access of atmospheric air. The assumed position of the child in utero is the most likely to exclude it from the atmospheric influence. If in any position in the uterus air could get to it, certainly the upper part, and with another child intervening between it and the os, would be the most unlikely. That the death of the child did take place some considerable time before delivery seems probable from the appearance of the child—six to seven months developed.

There being two placentæ, and these only attached by their membranous parts, would, one should think, make the death of one child less liable to affect the development of the other than if there had been only one placenta.

The dead child, now putrid, lay in the uterus without apparently giving rise to any other symptom, after the primary local disturbance, save a greater enlargement of the uterine cavity than if there had been but the living child.

The double hare-lip, cleft palate, and exomphalos are worthy of note as marks of arrest in development; the supernumerary fingers and toes, on the other hand, as marks of excess in development.

The President thought it was very probable that the injury to the mother had caused the general arrested development of the second twin. From the fact that the twins were in quite separate membranes, the placental circulation of the fully developed was not interfered with. The fact that a perfectly healthy child was born along with the deformed one illustrated the fact to which Crédé had drawn attention, that the development of twins was quite independent. It was interesting to note the existence of exomphalos with deformities of the extremities. In the last cases shown to the Society it occurred with spina bifida and with anencephaly.

Dr Peter Young remarked on the existence of backward curvature of the lower limbs with exomphalos.

VII. *Dr Robert Bruce* read his paper on a FOURTH CASE OF RESUSCITATION OF THE NEW-BORN INFANT, which will appear in a future number of this Journal.

Dr Dickson thought an ordinary elastic catheter with the end cut off served all the purposes of a special instrument, and was always at hand.

Dr Carmichael mentioned a case where he had used the catheter successfully to resuscitate the child after a tedious forceps labour.

Dr Rattray of Portobello had found the inflation of air by applying the mouth directly to that of the child was all that was necessary, provided that the trachea be pressed on the œsophagus to prevent the air passing into the stomach.

Dr Barbour asked whether the death of the children after respiration had been restored might not be due to a head injury. In a case of turning in a rickety pelvis he had resuscitated the child by keeping up artificial respiration by Schultze's method for twenty minutes. The breathing was spasmodic, and ceased again in five hours. There was a deep rickety furrow on the head.

The President thanked Dr Bruce for his interesting communication. His practice, in restoring the asphyxiated infant, was first to hold it up by the heels to allow any fluid to run out of the air-passages, and then perform artificial respiration by Schultze's method. The danger of blowing air into the lungs was that the lung might be injured by the forcible distention. The subsequent death of the infant in two of Dr Bruce's cases might have been due to this.

Dr Bruce, in replying, thought that the method of inflating the lungs immediately was both crude and inefficient. In using his instrument he breathed the air into the lungs as quickly as it could be done comfortably. He thought the danger of producing emphysema must be very slight; he had never seen any symptoms indicative of it. In neither of the ultimately fatal cases could there be any suspicion of injury to the head from forceps or otherwise.

VIII. *Dr Peter Young* read his paper on DANGEROUS HÆMORRHAGE FROM THE EXTERNAL GENITAL ORGANS DURING AND AFTER LABOUR, which appeared at page 800 of this Journal.

The President had never seen a case in which hæmorrhage from vaginal or cervical laceration had proved fatal. In a case of hypertrophic elongation of the cervix the laceration had produced considerable hæmorrhage, but not so serious as to require stitching of the pudenda.

Dr Bruce said the Fellows were indebted to Dr Young for bringing this complication of labour under their notice, all the more so on account of its rarity. His paper would be a guide to them in the treatment of similar cases.

Dr Gordon thought that plugging the vagina was the best mode of treatment.

The following gentlemen were admitted fellows of the society:—Dr Longmuir of Bathgate; Skene Keith, Esq., M.B.; B. L. Mills, Esq., M.B.; F. W. Dyce Fraser, Esq., M.B.; A. Stewart Bowman, Esq., B.A., M.B.

Part Fourth.

PERISCOPE.

MONTHLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

BY ANGUS MACDONALD, M.D.

THE DANGER OF PUNCTURING IN OVARIAN CYSTS (by Prof. Zweifel, Erlangen, *Centralblatt für Gynäkologie*, No. 7, 1883).—In this contribution the author relates a case in which dangerous symptoms, indicative of acute peritonitis, from the passage of materials from a dermoid cyst of the left ovary, supervened on exploratory puncture by means of a Potain's aspirator, the needle employed being the second largest. The symptoms of pain, collapse, and vomiting were so urgent that laparotomy was immediately undertaken and a large cyst removed. A portion of its contents about the size of a hazel nut had escaped into the abdominal cavity. The patient did well. This was the fifty-fifth ovariotomy performed by the author, in almost all of which he had used exploratory puncture without any evil result following. He only was aware of these evil results through the cases recorded from time to time in books. Professor Zweifel states as his opinion, in conclusion, that in this matter the fullest foresight only requires that the diagnostic puncture, having regard to such an accident, should always be made at a place and under circumstances in which, in case of need, ovariotomy could be performed in the shortest time.

BLEPHAROBLENORRHŒA NEONATORUM.—In the same number there is an abstract of a report by Von Hecker, of Munich Maternity, in which the following interesting particulars are given on the above important subject:—Von Hecker observes that of 18,451 living children, 430=2·4 per cent. suffered from blepharoblenorrhœa, which he regards as, relatively considered, a very good result. The treatment consisted in the application of cold washings and touching with a 2–4 per cent. solution of nitrate of silver. More powerful caustics were avoided. In 123 records regarding the result there are found 27 = 22 per cent. cured, 92 = 74·7 per cent. improved, and 4 = 3·3 per cent. unhealed. In reference to the etiology of the disease, Von Hecker believes that it is not always to be traced to infection in the mother's genital passage, since he had frequently failed to see in the pregnant women any excessive secretion or other abnormality of the mucous membrane, nor had he observed any abnormality whatever in regard to the duration of the period of expulsion, *i.e.*, in reference to the touching of the face with the vaginal walls. Neither can he necessarily draw any conclusion from the period of incubation in reference to infection during labour, since 83 of his cases appeared between the third and sixth day. In like manner he could not find any influence of the weather upon the origin of the ophthalmia, nor a connexion between it and the morbility or mortality of the mothers. He believes, therefore, that in maternities there is a soil for ophthalmia, since in such places the opportunity of communication of infectious germs to the eyelids is afforded in a high degree by the atmosphere, dirty apparatus during bathing, etc. As a prophylactic, Von Hecker treated 133 children according to Crédé's proposal (only employing a one per cent. solution of silver nitrate, however). Of these, four children became affected with blenorrhœa. This rather unfavourable result is, according to Von Hecker's idea, to be referred to want of expertness in the attendants charged with carrying out the treatment, and perhaps partly also because the disinfection was at times not performed immediately after delivery, but delayed till some time afterwards. In spite of these failures, the author adheres strongly to the prophylaxis mentioned above.

STATISTICS OF SYMPHYSIOTOMY.—Dr Robert P. Harris publishes in the *American Journal of the Medical Sciences* for January 1883 a careful analysis of the statistics of symphysiotomy, with comparative tables of the early and later cases, showing that the operation has been more frequently performed in Italy in the last seventeen years than in the previous eighty. In his first table, extending up to 1858, out of 70 cases there was a maternal mortality of 70 per cent., and a fœtal mortality of 67 per cent. The second table begins with the resuscitation of this operation in Naples, in 1866, and, as far as he has been able to learn, there have been 53 operations in that city, saving 43 women and 42 children. From a report of Prof. Morisani, by whom most of these operations were performed, we learn that—1. All of the fifty operations (in table 2) were performed upon rachitic subjects, whose pelves were generally flattened antero-posteriorly. In four or five instances the pelves were simply dwarfed in dimensions. There was no case of rostrate pelvis, as *Malacosteon* is very rarely met with in Naples, 2. Version was not resorted to except in the transverse positions. The forceps were applied in about one-fourth of the cases. 3. The separation at the pubes amounted to about 2 inches (50 mm.), which was obtained without any effort, and without producing any lesion of the sacro-iliac synchondroses. 4. The immovable dressing secured the firm union of the symphysis pubis in all the cases that recovered. 5. The women had good health after the operation. 6. There were no malformed infants. Nearly all of the children were sent to the Foundling Hospital to be taken care of. 7. *Phlegmasia alba dolens* did not occur in any of the women. 8. There were no pelvic lesions left as a sequel of the operation, with the exception of one case of iliac phlegmon. 9. Vesico-vaginal fistula occurred in but one case, and this was easily cured by an operation.—From *Editor's Supplement.*

HERNIA OF THE OVARY.—This is the subject of a long communication in the *American Journal of Obstetrics* for January 1883 by Dr Robert Barnes. After an interesting introduction of a general nature, Dr Barnes proceeds to enumerate cases of the accident. He has been able to collect from medical history upwards of twenty cases, which are briefly referred to. The author then records one of his own, which was amputated, and by the nature of its microscopic constituents proved to be an ovary, though it had been subjected to influences that had considerably obscured its ovarian character. A second case of threatened ovarian hernia observed by the author is then briefly referred to. The relation of double ovarian hernia to hermaphroditism is also touched upon, and its difficulties treated of. Hernias of the ovaries are shown to be connected frequently with uterine hernia. In this connexion the author appears to adopt the views of Cruveiller, that where we have ovarian and uterine hernia the ovary constantly precedes, and in a certain degree causes, the uterine hernia. Some interesting remarks are then made regarding the relation of the ovaries to menstruation, and the paper terminates with some observations regarding the diagnosis and treatment of such tumours. On the latter point the author strongly supports amputation in preference to reduction and wearing a truss, even when the latter method is possible. The removal may be made by either cutting down on the tumour, as in an ordinary hernia, or by laparotomy. It is better, the author thinks, if the former method is adopted, to fasten the cut end of the tube in the wound.

OBSERVATIONS REGARDING THE EFFECTS OF TRACHELORRHAPHY ON FERTILITY AND PARTURITION (by Dr P. J. Murphy, in same Journal, p. 28).—After a brief introduction, the author gives a brief *résumé* of all the cases whose history he could find in the Surgeon-General's office at Washington. These amounted to eleven cases only. From an analysis of them Dr Murphy formulates the following rather sweeping conclusions:—1. That repair of lacerations of the cervix uteri is usually followed by sterility. 2. That the character of the labour is unusually severe and protracted, and that in a large percentage laceration occurs a second time. 3. That in order to ascertain the benefit of surgical interference in such cases, an examination should be made several months after the operation, to determine the condition of the cervical canal, and, if conception has taken place, the condition of the cervix following delivery. [It is hard to divine how the author's conclusions are deduced from the premises he furnishes.—A. M.]

ADDITIONAL REMARKS ON GASTRO-ELYTROTOMY, WITH SPECIAL REFERENCE TO PORRO'S OPERATION (by Dr Garrigues, *Ibid.*, p. 33).—In this paper the author discusses the relative difficulties, dangers, and advantages of the two above operations, as also of Müller's modification of Porro's method, and formulates his results as follows:—1. Dr Thomas's method has been performed eight times. One-half of the mothers recovered. All the children survived except two, which had died long before the operation was done. 2. The operation may be performed with many antiseptic precautions. 3. Porro's operation has given less good results, and Müller's no better, than Thomas's. 4. The dangers, especially as regards hæmorrhage, peritonitis, and septicæmia, are greater in the Porro-Müller operation. 5. The intra-peritoneal treatment of the stump in Porro's operation, carried out in five cases, has four times resulted in death. (*Note.*—The author omits to mention Prof. A. R. Simpson's case, which would make five deaths out of six recorded operations). 6. One advantage in the Porro-Müller operation is the possibility of operating before the commencement of labour. 7. Gastro-elytrotomy is less repulsive to the mind of the patient, less difficult of execution, and can be performed with less assistance. 8. It does not sterilize the woman. 9. In country practice the old-fashioned Cæsarean operation will in most cases be preferable to all its substitutes. 10. Thomas's operation can be performed on the left side as well as on the right. 11. The ureter stays below the incision. 12. All those who have performed gastro-elytrotomy on the living subject or on the cadaver recommend it.

ON THE SUCCESSFUL TREATMENT OF EXTRA-UTERINE PREGNANCY (by A. D. Rockwell, A.M., M.D., New York, *N. Y. Med. Record,* 17th Feb. 1883).—In this article the author gives brief accounts of seven cases in which he had applied electricity to destroy the life of the fœtus without injury to the mother, where early extra-uterine pregnancy was diagnosed. In one of those cases there was an extra-uterine fœtation concurrently with a uterine one. The treatment destroyed the extra-uterine fœtus, and left the intra-uterine one to develop. The current employed was from sixteen to eighteen cells in strength. In regard to the form of electricity to be employed, the author prefers the galvanic current to electro-magnetism. All the cases did well.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

CHLORINATED OIL IN SCABIES.—A new remedy for this affection is made by passing chlorine into olive oil. A compress of cotton saturated with this oil is to be applied night and morning. It is said to be equally efficacious in other parasitic skin affections.—*New Remedies,* February 1883.

CASCARA SAGRADA IN CONSTIPATION.—*Cascara sagrada, Rhamnus purshiana,* is a small tree indigenous to the Pacific Coast of North

America. The fluid extract I have used is that prepared by Parke, Davis, & Co., Detroit, and procurable of their agents, Messrs Burgoyne, Burbidges, & Co., London. Its use in my hands seems to be indicated in almost all cases of constipation, particularly in cases of torpidity of the liver with scanty dry stools and indigestion. It seems to act as a stimulant to the muscular fibres of the intestines through its action upon the sympathetic nerve, this increasing the vermicular movements of the intestines, thus resembling nux vomica. I have used it in several cases of obstinate constipation with very satisfactory results. I generally give twenty drops three times a day in sweetened water for ten days or a fortnight; and then, gradually reducing this dose, the patient is able to establish a habit of regularity. Given in doses of a teaspoonful, it acts as a gentle purgative, without producing any griping tenesmus or nausea; but its action is slow, and, in this sized doze, seems to lose its good property of curing the constipation. With children, with smaller doses, I have had equally good results.—J. Fletcher Horne, F.R.C.S. Edin., *British Medical Journal*, March 1883.

INJECTION OF SULPHURIC ETHER FOR THE TREATMENT OF SCIATICA AND LUMBAGO.—The successful results I have invariably found attending this system of treatment, which I have adopted for the last four years with my rheumatic patients, have decided me to give publicity to the course from which I have seen so much benefit derived. Its plan is simple enough. After preliminary dry-cupping over the seat of lesion, I inject subcutaneously ten minims of sulphuric ether, gradually increasing it till I have injected thirty minims (assuming I find no marked progress in the course of a week of treatment above named). I have found it advisable to precede this by a brisk purgative at the outset, and to administer a mixture containing five grains of salicylate of soda in an ounce of infusion of gentian every two hours, concurrently with internal and external applications. In not one case have I yet found this curative system fail; but in about a week's time, usually, the patient is cured. Sufferers from lumbago have come to me nearly bent double with pains in the lumbar region, and have walked away erect and free from their distresses after dry-cupping. I have seen sciatic patients come in limping, and go out free from the least indication. I can especially instance the case of one patient, an old man, who had been the round of all the London hospitals, to no avail, for nine years previous to his consulting me. He had been given up by all as a hopeless case. On my asking whether he was willing I should try a method of treatment on lines hitherto unattempted, and on his consenting to the same, I pursued the system of subcutaneous injection already described until I attained the administration of a drachm of sulphuric ether. Marked improvement followed this course, which I, however, was obliged to suspend owing to the formation of a hard cicatrix over the seat of the sciatic nerve. Nevertheless, after this was removed, the patient ultimately found himself completely recovered, and, during the five years which have elapsed since he first came to me, has sustained but one attack of sciatica of a very slight character. I sincerely hope these few remarks on my own practical experience of this system of treatment of cases the persistency of which so frequently baffles the efforts of the most experienced practitioners may prove of some practical utility in similar cases.—J. Brindley James, M.R.C.S., *British Medical Journal,* March 1883.

ERGOT IN DELIRIUM TREMENS.—Dr Arnoldon has used ergot in several cases of *mania-à-potu,* with the effect of speedily controlling the delirium. He explains its action by its influence in contracting the cerebral bloodvessels.—*Med. Record,* from *Deutsche Med. Zeit.*; *New Remedies,* February 1883.

SOLUTION OF PERCHLORIDE OF MERCURY IN GONORRHŒA.—Towards the end of last year Dr Leistikow read a paper at the Berlin Charité Medical Society, detailing the results of his researches on the gonorrhœal bacteria first discovered by Neisser. The various remedies, he contended, used in gonorrhœa, such as zinc, lead, tannic or carbolic acids, after a few injections, dispersed all the bacteria, as did the copaiba balsam when taken internally. Corrosive sublimate also prevented the development of bacteria; and Dr Leistikow especially recommended it as the best means of treatment of gonorrhœa, employed in an exceedingly weak solution (10 to 20,000 or 30,000). I am no believer in the germ theory of disease, or what I conceive to be the silly, unphilosophical treatment based thereon; but I desire simply to point out that in a paper which was published in these columns in April 1870 I advocated the use of weak solutions of bichloride of mercury in obstinate cases of gleet. The strength of solution then recommended was one to two grains to eight ounces of water; and the statement is made that I did "not know a case of uncomplicated gleet to resist this treatment."—D. Campbell Black, Glasgow, *British Medical Journal,* March 1883.

PERISCOPE OF OTOLOGY.

By Dr KIRK DUNCANSON, Surgeon to the Ear Dispensary, 6 Cambridge Street; Assistant-Surgeon, Eye Infirmary; Lecturer on Diseases of the Ear, Edinburgh School of Medicine.

TETANUS AFTER LACERATION AND GANGRENE OF THE EAR; RECOVERY (under the care of Dr Lloyd Owen, communicated by Mr J. A. Williams, House-Surgeon).—James R., aged 26, brewers' drayman, was admitted on 12th September 1882 into the Royal Portsmouth Hospital, for extensive lacerations of the right ear, which, by the revolution of a cart wheel against which he had fallen, had been completely severed from its osseous attachments, and only hung by a small skin flap. The wound, after the ear was very neatly stitched into its natural position, was dressed with carbolized lint, but next day, the ear becoming decidedly gangrenous, charcoal poultices were substituted. All progressed favourably, sloughs separated, until 28th September, when great stiffness of the muscles of the jaw and back was complained of. These muscles were found to be very rigid, hard, and tonically contracted. The teeth could not be separated more than a quarter of an inch. There were no spasms. The wound was granulating healthily, and there was no swelling or inflammation of the surrounding tissues to be detected. *5th October.*—The tonic muscular rigidity had extended to the extremities; spasms were now complained of, as the biting of the tongue during sleep. He was ordered 15 grains of bromide of potassium and 10 grains of chloral hydrate in solution three times a day. *8th October.*—The spasms had become more marked, lasting a few minutes, and producing much pain and almost complete opisthotonos. They occurred about every half hour. In the intervals the muscles were tonically contracted, and in this stage well-marked ankle clonus was obtained on forcibly flexing the ankles. The spasms were much relieved by morphia injected hypodermically. The spasms only lasted a few days, but rigidity of the muscles of the jaw, back, and extremities persisted till 14th October, after which the stiffness gradually ceased and the muscles became relaxed and pliable. Recovery was now rapid. Solid food was taken on 26th October, and on 18th November, having experienced no relapse since his dismissal from hospital on 6th November, he walked about as usual, and the wound was almost healed. The acuteness of hearing with the right ear was diminished by about one-third when compared with the left ear. Mr J. A. Williams, in his remarks, looks upon the favourable progress of the case as spontaneous, and not to be attributed to the medicines given. The large and important nerves which pass from the ear and its surroundings, through and beneath the parotid gland, render lacerated wounds in this region especially prone to originate tetanus. The prominent feature of the case was prolonged muscular rigidity. There were no severe spasms, and such spasms as were present were slight, unfrequent, and only lasted a few days. The muscles of respiration and deglutition were unaffected. The earliest indications of these spasms was tongue-biting during sleep. The production of ankle clonus in a foot whose muscles are rigidly contracted becomes of interest when we remember the important part which passive tension is said to exercise in its development.—*British Medical Journal*, 23rd Dec. 1882, p. 1250.

ABSCESS OF BRAIN IN RELATION TO DISEASE OF THE EAR.—Dr Jacob read a paper in which, after describing two cases which had recently come under his care, in which disease of the middle ear of some standing was followed by acute symptoms and death, he reviewed the literature of abscess of the brain, with a view to showing that in by far the greater number of cases which die with cerebral disease after suppuration in the ear there was an abscess in the temporo-sphenoidal lobe of the brain, the patient dying from increase of intracranial pressure depending on this, and not on meningitis or the ear disease *per se*, though in a small proportion of cases the abscess was in the cerebellum. He urged that greater boldness should be shown in dealing with these cases when there was reason to believe that an abscess existed, and suggested that an exploratory puncture should be made with an aspirating needle after an opening had been made with a small trephine or a dentist's mechanical drill. He quoted from ancient works on surgery, showing the freedom and apparent safety with which the trephine was used a century ago, while the experiments of modern physiologists in investigating the functions of the brain showed that in the case of the lower animals the cranium might be perforated with complete safety under antiseptic precautions. If, on an exploratory puncture, pus were found, a larger opening might be made and the abscess treated on ordinary surgical principles. Mr Pridgin Teale spoke of the frequent use of the dental engine by American surgeons, and strongly approved of its use in such cases. The specimens of brain were exhibited at the meeting.—"Leeds and West Riding Medico-Chirurgical Society, 13th Jan. 1883," *British Medical Journal*, 3rd Feb. 1883, p. 208.

Movements of the Eyes provoked by Pressure on a Diseased Ear.—Dr Hughlings Jackson read a paper discussing this subject, and relating the details of a case which, he said, resembled one reported by Schwalbach, and was important as giving a demonstration that ear disease was one cause of, or one factor in producing vertigo. It was a clinical illustration of one of Cyon's experiments on the semicircular canals of rabbits. The patient was a woman, æt. 49, who had suffered from otorrhœa on the right side from childhood. She had recently become subject to attacks of auditory vertigo, and had a peculiar unsteady gait, resembling that produced by alcoholic intoxication. Pressure on the tragus of the right ear caused certain definite movements of both eyes: first the eyes moved slowly to the left, then they moved back again by jerks to the right, at the same time she felt giddy, and there was apparent displacement of objects to the left. This displacement was synchronous with the slow movement to the left. The patient was examined by Mr Laidlaw Purves and by Mr Couper, and under treatment by syringing the ear and the internal administration of quinine she improved, so that only the very slightest movements of the eyes were producible by the pressure spoken of. Dr Jackson referred to certain researches by Dr James of Boston, U.S.A., which seemed to show that deaf-mutes were not easily made giddy by rotatory movements, and were not at all liable to sea-sickness. In conclusion, he thought that the procedure mentioned in this case might probably be helpful in the diagnosis of some difficult cases, and that the different results obtained at different periods, in such cases, would be some measure of the patient's progress. In reply to Wm. Bowman, Esq., F.R.S., President, Dr Hughlings Jackson said that the slow movement of the eyes was from right to left, and that the apparent movement of objects was towards the same side, and, according to the patient's statement, coincident in time. He referred to the following note on this subject by Professor Donders of Utrecht, which he had communicated to the Society during the last Session:—*The Relation between the Apparent Movement of Objects and the Rotation of the Eyes.*—Dr Jackson had published in *Brain* (April 1879) a case of auditory vertigo in which each eye was partially and very slightly rotated to the right in frequent jerks. The patient said that objects seemed to move to the right, indicating the direction and the jerky character of the movement by jerking his hand from left to right. It had been suggested that the apparent movement of objects occurred, not during the jerk to the right, but during the more gradual return of the eyeballs to the state of rest; and it had been contended that it was theoretically impossible that the apparent movements could occur in the same sense as the movements of the eyeball. Dr Jackson, however, believed that the apparent movements coincided in time with the jerks; and at his suggestion Mr Bowman submitted the question to Professor Donders. In the course of his reply he observed that in every rotation of the globe the images glided on the retina in the same sense as the rotation, while the objects passed before the line of sight in the opposite sense, though there was no apparent movement, because the displacement corresponded exactly to the voluntary motor impulsion. It followed that when rotation of the globe occurred without voluntary impulsion, as in passive movements and spasms, the apparent movement would be in the opposite sense to the rotation: in the converse condition—*i.e.*, when, as in paresis of the muscles of the globe, the voluntary impulsion was not accompanied by the corresponding degree of rotation—the apparent movement was in the sense of the impulsion, that is, in the sense of the imperfect rotation. The vertigo in the case under discussion was analogous to that produced by turning rapidly round a few times while in the erect posture. After having turned round rapidly to the left, objects seemed to continue their movement to the right; and it would be found that the eyes tended to deviate slowly to the left, and then at short intervals to return, by a rapid jerk, to the right. No movement of objects was noticed during the jerks, but there was a corresponding momentary indistinctness. These sudden jerks were probably too small and too sudden to be taken note of by the brain; but, if remarked, the apparent movement should be, Professor Donders considered, in the opposite sense to the jerks. The experiment, however, did not precisely correspond with the phenomena as described by Dr Hughlings Jackson's patient, inasmuch as it exemplified movements of the eyes by jerks to the right, induced in a secondary way by an apparent movement of the objects to the right, but not by jerks." After further illustrating the subject by a reference to an experiment with secondary images, Professor Donders concluded his note in the following words:—"The propensity of the eyes to move (deviate) to the left in apparent movement of the objects to the right, under certain circumstances, is well demonstrated by these experiments; but it is difficult to account for it in a simple and satisfactory way."—*British Medical Journal,* 20th January 1883 and 22nd October 1881, p. 113 and p. 667.

OCCASIONAL PERISCOPE OF DERMATOLOGY.

By W. ALLAN JAMIESON, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

ECZEMA, ITS PATHOLOGY AND PRINCIPLES OF TREATMENT.—Bronson, in this paper, draws attention to the part which the epidermis plays in the pathology of eczema as compared with that taken by the cutis vera, to which, as the vascular layer of the skin, too exclusive notice has been paid. He thinks that "the epidermic lesions of the disease possess a primary, an initiative character that tends to mark the epidermis as the focal point of the eczematous process." Vesiculation, again, as explained by Vulpian, is not a mere passive process as far as the epidermis is concerned; the cells of the rete participate actively. Some, especially in the interpapillary spaces, become dropsical, and several of such in time coalesce to form a vesicle. This mode of formation explains how the fluid which exudes from an eczematous surface differs materially from ordinary serum. Over the eczematous vesicle, too, the granular layer of the epidermis disappears, and there is a failure of cornification. The most constant and essential factors in the symptomatology of eczema are sensory disturbance and trophic change in the epidermis. The trophic changes which take place in the derma Bronson regards as secondary and contingent. Impairment of the integrity of the epidermis is the necessary condition of every form and phase of eczema. It is more than probable that this trophic change of the epidermis in eczema is under the influence of the epidermic nerves, while itching is probably due to their disorder. In speaking of the treatment of eczema, Bronson says, "For the pruritus of eczema the virtues of simple hot water deserve especial mention. They probably depend upon a twofold action the first effect of which is to stop the itching by substituting the sense of smarting. This is succeeded by a sedative effect, which is secondary and the result of a certain depressant or enervating action, which is the equivalent of the general relaxation and exhaustion which follows the full hot bath when too prolonged. In order to insure a continuance of the antipruritic effect of the hot water it is necessary that the applications should not be stopped too soon." The indications supposed to require general treatment in eczema may be divided into four sets—1, For the relief of internal disorders that affect the skin by reflex irritation; 2, To remedy general debility or special systemic diseases which are accompanied with defective innervation or innutrition of the skin; 3, To aid the local resources of repair by the administration of drugs that either act directly upon the skin by selective affinity, or else, 4, set up internally a transpositive irritation, by means of which a share of the cutaneous excitement is diverted to other organs. Diligent search for all sources of morbid influence, whether remote or near, is scientific and praiseworthy; but if led by the preconception that every eczema has an essential internal cause, it will often prove, he believes, to be the pursuit of a phantom.—*Journal of Cutaneous and Venereal Diseases,* February 1883.

CALX SULPHURATA AND ITS USES IN CUTANEOUS DISEASES.—Piffard prefers this term to that of sulphide of calcium employed by Ringer, since pure sulphide of calcium has never been obtainable in the drug market nor been used therapeutically. It is very valuable in the furuncular condition, both prompt in its action and positive in its effects. The failures were due partly to inattention to the explicit directions of Ringer—to employ 1-10th of a grain hourly or every two or three hours—much too large doses having been administered, in the idea of accomplishing the desired result more speedily; partly because the sulphate or sulphite of calcium was substituted for calx sulphurata. Again, it is useful in acne. In acne simplex with acute pustular lesions, 1-100th of a grain once or twice a day, and not continued too long, is most appropriate; while in sluggish papules occurring in lymphatic subjects, a tenth of a grain, a fifth, or even a half, should be given with frequent repetitions, and until pustulation is imminent. The drug should now be temporarily discontinued, to be resumed for a time when its effect has worn off. In eczema of the chin and cheeks of adults, characterized by follicular pustules and nodules, the non-parasitic sycosis of many writers, calx sulphurata has displayed a promptness of action that was surprising. Cases that, under the ordinary treatment by epilation and ointments, would have been perhaps months in recovering, have been, by the use of this drug, cured in apparently one-fourth the time. At the start, all hairs that perforate pustules should be extracted, in order to remove sources of local irritation and to give free egress to the pus in the follicles The drug should then be given in doses of about one-tenth grain two or three times a day, and a sedative ointment may or may not be prescribed in addition. It rarely happens that a second epilation becomes necessary, or that treatment need be prolonged beyond four or five weeks at the farthest. Cases are also recorded where, in conjunction with chronic eczema of the lower limbs and boils, glycosuria was observed. Under the use of small doses of the calx sulphurata the sugar disappeared from the urine, and the eczema and boils were cured. Piffard believes the drug to be an aplastic or resolvent of great energy, its tendency being, when given in sufficient doses, to break down and dissolve rather than to build up and restore. Its *rôle* is somewhat like that assigned to mercury thirty or forty years ago, that of a general resolvent in inflammatory exudations, chronic infiltrations, and possibly also in some forms of neoplasm.—*Journal of Cutaneous and Venereal Diseases,* January 1883.

TREATMENT OF CUTANEOUS DISEASES BY SCARIFICATIONS.—V. Bartoszewicz and Aube, in theses presented to the University of Paris, have collected the chief results obtained from scarifications in skin diseases. The first writer regards the advantages obtained to be most plainly visible in cases of lupus exedens. Not unfrequently three or four scarifications are sufficient to arrest the progress of the complaint, and after a few months of treatment the cure is complete, the resulting cicatrices, which are white, smooth, and thin, being productive of much less deformity than those left in similar cases after any other process. The method has certain drawbacks. The pain occasioned may be severe, the hæmorrhage troublesome, and the treatment may be protracted, involving frequent repetition of the process. Yet with all this, in suitable cases, its advantages are incontestible. Aube confirms their value in tubercular lupus, and prefers them to scraping. In erythematous lupus they act less promptly. In acneic lupus they are ineffectual unless carried deeply and combined with punctures. They are serviceable combined with epilation in parasitic sycosis with abscess of the derma, as also in non-parasitic sycosis. Greasy seborrhœa, so refractory under other treatment, is amenable to scarifications. In rosacea they can only be relied on before the hypertrophy has become too far advanced. Though apparently contra-indicated, they have been employed successfully in some cases of keloid.—*Journal of Cutaneous and Venereal Diseases,* November 1882.

PRURITUS ANI.—Allingham states that he has seen a bad case of this disease cured by the use of the subjoined lotion in forty-eight hours.

℞ Liq. carbonis deterg., (Wright's)
Glycerini, āā ℥j.
Pulv. Zinci Oxid.,
Pulv. Calamin. prep., āā ℥ss.
Pulv. Sulph. precip., ʒss.
Aquam ad ℥vj. M.

The part affected is to be thickly painted over with this, once or twice a day, and allowed to dry.—Kelsey, *Diseases of Rectum and Anus,* 1883.

Molluscum Contagiosum.—Geber concludes an exhaustive paper on this as follows:—Epithelioma molluscum (Virchow) essentially consists in a hyaline degeneration as a result of the hyperplasia of the collective cells of the interpapillary rete, the occasion for which is never furnished by contagion, but rather by a tendency on the part of the skin, and in a number of cases, in addition, by the action of local irritants.—*Viertelj. für Dermatologie und Syphilis*, 1882, 3 Heft.

PERISCOPE OF OPHTHALMOLOGY.

By George A. Berry, M.B.

Case of Optic Neuritis followed by Dropping of Fluid from the Nostril.—A girl aged 23 had, two years previous to being seen by Mr Nettleship (who reports the case in the January number of the *Ophthalmic Review*), suffered from palpitation and so-called hysterical fits. This state of health lasted for five months, after which there was sufficient improvement to permit of her undertaking the work of a barmaid; but she soon afterwards again became ill, and this time observed that her sight failed, becoming very bad for a time, and gradually improving until it reached the state found on examination eighteen months later, viz.,—

$V\begin{cases} R\frac{20}{90} \text{ and } 4 \text{ J.} \\ L\frac{20}{0} \text{ and } 20 \text{ J.} \end{cases}$ “The optic discs showed well-marked post-papillitic atrophy, the margins still hazy and swollen, the veins tortuous, and all the vessels considerably shrunken.” A constant sniffing attracted attention, and the patient said that for two months she had suffered from a profuse running of clear water from the nose. Her statements were confirmed by observation, and the fluid analyzed. It was found to contain a quantity of chlorides, traces of phosphates and sulphates, no sugar, and it responded to the tests for mucin. The conclusion come to was that the fluid was not meningeal, but derived from the nasal cavities. The case was under observation for a little more than a year, during which time, although the dripping became less troublesome, not much change took place.

On the Changes in the Fundus Oculi in Cases of Hepatic Disease.—Litten has given special attention to the ocular changes met with in a number of hepatic cases from the clinic of Professor Frerichs. The results of his investigations are as follows:—In the various affections of the liver which are associated with jaundice it is by no means uncommon to find retinal hæmorrhages. These are to be looked upon as local manifestations of a more general hæmorrhagic process involving many of the internal organs, although, as they sometimes occur in cases of simple duodenal catarrh, they cannot always be regarded as symptoms of gravity.

In a case of phosphorus poisoning, giving rise to acute atrophy of the liver, there existed, as well, numerous white patches, which on post-mortem examination turned out to be areas of fatty degeneration containing tyrosin, and situated in the granular layers of the retina. In two cases of cirrhosis there was found pigmentary degeneration of the retina. In the one this came on at an advanced stage of the liver affection, and in both cases the condition was associated with great restriction of the field of vision, whilst central vision remained good in a bright light. Nyctalopia, unconnected with objective changes in the fundus, is also occasionally met with in cirrhosis, both in the atrophic and hypertrophic stages. The removal of a large amount of ascitic fluid was on one occasion followed by neuroretinitis, this being probably of the same nature as the neuritis sometimes following great loss of blood.—*Centralblatt f. Augenh.*

INVESTIGATIONS ON THE LIGHT-SENSE, by J. Bjerrum, Copenhagen.—Methods for determining the state of vision as regards the senses of form and colour are of sufficient accuracy to be of practical importance in pathological cases, so that the information gained by a properly conducted examination of these two functions of vision is always of more or less use in forming a correct diagnosis or in aiding the examiner to arrive at a just appreciation of the progress of a case. The remaining important function of the retina, viz., the sense of light apart from regional quantitative and qualitative differences, the light-sense pure and simple, has as yet received but scant attention at the hands of the practical ophthalmologist. Any attempt at obtaining a method of subjective examination, whatever its nature, which shall admit of mathematically accurate comparative measurements must necessarily fail: it is sufficient that the limits of fallacy should not overstep the bounds of *practical* utility. It is probably greatly on account of this fact not having been kept in view, as well as, perhaps, owing to the undoubted difficulty of clearly distinguishing between pure sensations of light and mixed sensations of light and form as they all but invariably present themselves to our vision, that the light-sense has as yet received so little development from a pathological point of view, although many points in the physiology of light perception have long been known. The results obtained by Bjerrum are encouraging, and, if confirmed by others, we may confidently look for assistance in diagnosis and prognosis from their practical application. The visibility of a figure or letter of the alphabet depends upon (1) the visual angle which it subtends, (2) the difference of illumination between it and the background, and (3) the degree of absolute illumination. Different combinations of these factors must undoubtedly have important bearings on vision; and different pathological processes are *a priori* not unlikely to exhibit differences when all the factors are carefully distinguished in our methods of examination. It is clear that objects which present themselves to our eyes in our daily life only rarely do so in such strong contrast as, for instance, the black printed letters on a white page. Cases of nyctalopia are evidences of an abnormal degree of diminution of vision under a low absolute illumination. With respect to this factor some few observers, notably Förster, have given some attention, although even this branch of the subject has by no means received full attention in pathology, and there is an absolute blank with reference to the pathology of that power of vision which consists in the detection of degrees of illumination. For the estimation of the degree of absolute illumination it is necessary to have some test which shall at the same time be approximately correct and easily applied. Daylight, as is well known, is too variable to furnish any standard. In order, then, to find an expression for the degree of illumination of the board of test types the following method was adopted:—Immediately to the side of the board a small vertical rod was fixed at a distance of $1\frac{1}{2}$–2 centimetres from the wall. The shadow of this thrown by the light passing through the window was compared with the shadow thrown by the same rod from a stearine candle. For unity of illumination was taken that which made the shadows of equal intensity when the candle was at the distance of 1 metre from the rod, so that the expression for the intensity became greater or less than unity according as the candle had to be approached or withdrawn to obtain the same depth of shadow, and in the inverse proportion of the square of the distance. Notwithstanding the differences in colour and the existence of a penumbra, the expressions got by this ordinary photometric procedure were found to be sufficiently accurate practically. This measurement of absolute intensity was always made immediately before taking the visual acuity, which, by suitable arrangements with blinds, gave differences of intensity varying between 0·25 and 120. After a certain number of trials it is found that the degree of this over visual acuity enables us to form a very fair estimate of the illumination, more particularly with the lower degrees of illumination. The test used by Bjerrum for estimating the acuity of vision for differences in intensity was a set of the ordinary Snellen's letters prepared in different shades of gray, reflecting approximately $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, and $\frac{9}{10}$ of the amount of light reflected by the background. Looking upon the ordinary test types (as is shown may be done for practical purposes without any error) as giving a difference of intensity of illumination equal to unity, the four other arrangements of types used differed in intensity in the proportions respectively of $\frac{4}{10}$, $\frac{3}{10}$, $\frac{2}{10}$, and $\frac{1}{10}$. It will save space if we denote by R (for German Reizschwelle) the amount of light, which is just sufficient to give rise to a sensation of light, and by U (Unterschiedsschwelle) the smallest difference between two intensities which is capable of being distinguished. The vision with respect to R and U are the two points which we wish to ascertain. The values of R and U depend on the visual angle, so that the smaller the angle the greater is the fraction expressing them. Further, the value of U depends (under certain limits only) on the absolute intensity under which the test is made, as is seen by the following table, where I stands for the absolute intensity:—

I.	U.
710	$\frac{1}{164}$
100	$\frac{1}{123}$
7	$\frac{1}{90}$
$\frac{1}{2}$	$\frac{1}{30}$

A priori, R might be imagined much higher than normal without any abnormal change in U with a good illumination, or U might be imagined to be represented by a larger fraction whilst R remained normal; or, indeed, it is quite possible to imagine any combination of these aberrations from the normal condition so that the curve, whose ordinates are represented by absolute intensities and abscissæ by fractions of the appreciable differences under each degree of intensity, might be supposed to take almost any reasonable form. Bjerrum has found, however, from an examination of fifty cases, that only the two first mentioned deviations from the normal take place. Of these the choroido-retinitic cases have shown more or less tendency to nyctalopia, whilst a diminution in the power of distinguishing between different intensities is found in cases of optic atrophy, so that pathological processes originating in the choroid or retina may in this way be sharply distinguished from those primarily involving the nervous elements.

PERISCOPE OF STATE MEDICINE.

By James Allan Gray, M.D. Edin., F.R.C.P.E.

THE NEW METHOD OF WATER-TESTING.—Dr Angus Smith, at a recent meeting of the Manchester Literary and Philosophical Society, contributed a highly interesting and instructive paper on the "Development of Living Germs in Water." A note from the paper appeared in the *Sanitary Record* for January, but the paper itself, in a somewhat amplified form, was published in the February number of the same journal. The exact importance of this new addition to our methods of water-testing cannot as yet be thoroughly estimated, for Dr Smith, from want of time, has not been able to deal fully with the subject. But the unsatisfactory, and sometimes conflicting, evidence obtained from chemical water analysis as at present performed, and the very deficient information which the fullest of present chemical tests give us, lead this new departure to be regarded with favour. The researches of Dr Smith are at once novel and full of promise. Learning from Dr Koch his method of cultivating organic germs in a dilute solution of gelatine, Dr Smith has applied this method to the detection of organic vitality in potable and other waters. "A convenient plan was found to make a solution containing 5 per cent. solid gelatine from the thin leaf, then, when dissolved, to clarify by filtration or by albumen. This melts at about 27° C. Of this 25 cc. have been usually mixed with 25 cc. of water to be examined, and kept for some minutes about the temperature indicated, but much smaller quantities are no doubt sufficient." This mixture is transparent, and not movable, like the water itself, and the result of this property is that when the soluble or unobserved organic matter which was in the water develops in the solution, little spheres filled with liquid appear in the hitherto clear mixture. Each sphere is the site of the activity of some organic body, and each remains for a considerable time distinct from its neighbours. The time when the spheres appear, their number, and their disappearance, depend on the quality of the water and the strength of the gelatine solution. Too much gelatine stops the action, too little allows the mixture to become liquid too soon, and the action of the individual centres to be thus obscured. The spheres begin to appear within a day or two, and on microscopic examination are found to contain bacteria, both motionless and living. At the bottom of the tube is a white mass containing active bacteria chiefly. With distilled water the gelatine shows nothing of these spheres, even after many days, if the gelatine is well covered with solid paraffin, with olive oil, or with mercury, or even if the tube be carefully stopped with cotton-wool. In all the experiments made by Dr Smith the tubes were stopped with cotton-wool only. "The chief results noticed here are, the existence of spheres full of transformed gelatine, the transformation being effected by organisms; next, the surface liquefaction of the gelatine, caused by a similar means; thirdly, the gradual softening of the gelatine; fourthly, the evolution of gas which is combustible, not always marsh gas." In some cases the spheres do not appear, and Dr Smith thinks that this arises from the want of aeration of the water, since if air be forced into the tube the spheres will appear in due course. As a further development of this new method Dr Smith proposes the addition to the water of sugar with or without phosphate of soda. In certain waters tested by him in this way there occurred decomposition of the sugar with the evolution of hydrogen and nitrogen in addition to carbonic acid, and these waters were otherwise known to be impure; while other waters presumably pure failed to effect this decomposition. The highly suggestive and interesting paper is concluded by a detail of some of the experiments made.

SULPHUR AS A DISINFECTANT.—M. d'Abadie, in a paper on

"Marsh Fevers," read before the Paris Academy of Medicine, advocated the use of this rather neglected disinfectant. In favour of this view he quoted many interesting observations of the action of sulphur as a preventative against intermittent fever—among others, that in the dangerous regions of African river mouths immunity from marsh fever is often secured by sulphur fumigations on the naked body. Also that the workers in the low ground Sicilian sulphur mines suffer much less from intermittent fevers than the surrounding population. M. Fouque has shown that when the sulphur mines near the town of Zephyria (on the volcanic island of Milo, in the Cyclades) ceased to be worked, and the sulphur-mining removed to some distance, so that the emanations were prevented by a neighbouring mountain from reaching the town, marsh fever became so extremely prevalent that it almost depopulated the town, which previously had had 40,000 inhabitants. As a simple way to use this disinfectant, we are told to drop a quantity of flowers of sulphur on a red-hot stove.—*Philadelphia Med. and Surg. Reporter*, Vol. xlviii., No. 6, p. 162.

FEVER POISONS.—Dr Martin, at a meeting of the Sheffield Medico-Chirurgical Society in January, suggested that the phenomena of fever are not produced by germs as germs, but are the result of the action of some toxic product, which in turn is dependent on the existence, growth, and waste of different species of germs in the systems of the patients affected. Whether this product be a secretion or an excretion of the germ, or what its chemical composition may be, beyond the suggestion that it is possibly alkaloidal in its constitution, Dr Martin does not pretend to say. Attention, however, is called by him to Pasteur's experiments with the bacterium of chicken cholera, where the fluid, freed by careful filtration from the presence of germs, yielded by inoculation toxic and narcotic effects similar to but less in degree than those observed in the disease itself. Pasteur holds that, as the effects are slight and transient, they cannot be attributed to the poisonous product apart from the germs themselves. But with this conclusion Dr Martin disagrees, for, on the contrary, he maintains that the toxic product, whatever its nature, acts merely as any other dead poison and is rapidly eliminated, but when the germ is present and multiplying the supply is maintained. He concluded by adverting to the fact that Pettenkofer had foreshadowed this view in connexion with cholera.—*Lancet*, 1883, Vol. i. p. 368.

THE CONTAGION OF LEPROSY.—The American Dermatological Association had before it, in August 1882, the question of the contagion in leprosy as a subject for discussion. The weight of opinion favoured the view that the chief method of communication was by inoculation, and not through atmospheric influence or ordinary intercourse. Rather, like syphilis, from which disease it is held by some to be a derivative, it is believed to require contact with the blood or secretions of the leper before contagion can take place. Several cases were mentioned in which leprosy had been contracted. In one of these, which occurred in 1843, a child was inoculated by being vaccinated with matter from a leper. Leprosy, which is due to the bacillus lepræ, has an incubation period of from one to sixteen years.—*Philadelphia Med. and Surg. Reporter*, Vol. xlviii. p. 163.

Chloroform in Poisoning by Stramonium and Belladonna.—Mr Rawson, M.R.C.S.E., writing from Wellington, N.Z., calls attention to the use of chloroform in poisoning by plants belonging to the Natural Order Atropaceæ. He recalls a case of poisoning by stramonium which had happened to him, and the notes of which appeared in the *Lancet* for 20th August 1881. There the inhalation of chloroform had at once checked the delirium of a boy aged 8, who had partaken of the stramonium plant accidentally mixed with other vegetables in soup. In the other case the patient, a boy aged 7, had swallowed part of half a drachm of extract of belladonna six hours before, and had been treated with mustard emetics without avail. The drowsiness present at first had passed off, and the delirium, so characteristic of belladonna poisoning, was well marked. The administration of chloroform for a quarter of an hour left the boy in a quiet slumber, in which he remained for seven hours and a half. On awakening he had quite recovered from the effects of the poison.—*Lancet*, 1883, Vol. i. p. 349.

The Action of Tobacco on the Temperature and Pulse.—Dr Trowski has published a chart of the pulse and temperature of moderate smokers, from an examination of which he concludes that tobacco smoking is not quite so harmless as is usually believed. In the case of people in fair health and not smoking, the average temperature for 24 hours was 36°·76 (98°·17 F.) and the pulse 72·9. When smoking the figures rose to 37°·02 (98°·63 F.) and 89·9; that is to say, tobacco produced an elevation of 0°·26 (0°·46 F.) of temperature and an increase of 17 pulse beats per minute. In the case of enfeebled people the rise of temperature was 0°·43 (0°·77 F.) and the rise of pulse 11·9. In robust cases the rise was 0°·22 (0°·39 F.) and 10·6. The average of all observations gave a rise of 0°·29 (0°·52 F.) of bodily temperature, and an increase of 12·7 cardiac pulsations per minute, as the result of tobacco smoking. If the temperature of non-smokers be represented by 1000, the temperature of smokers will be 1008; and if the rapidity of pulse of the former be also represented by 1000, the rapidity of the pulse of the latter will be represented by 1180. It is this last consideration which in reality indicates the evil effect of tobacco.—*Vrach*, 1882, No. 7, quoted in *Annales d'hygiène*, January 1883, p. 93.

Poisoning by Gelseminum Sempervirens.—A girl, 14 years of age, took by mistake a teaspoonful of an old fluid extract of gelseminum sempervirens, and three-quarters of an hour afterwards complained of dizziness, headache, muscular relaxation, and slight convulsive movements. Hypodermically one-eighth of a grain of morphia was administered, and some improvement in the condition took place; but this was soon afterwards followed by excessive muscular relaxation and inco-ordination, dilated pupils, diplopia, ptosis, paralysis of the facial muscles, and excessive salivation. The face became congested, the tongue "thick," and deglutition well nigh impossible. Then a semi-comatose condition and collapse supervened, followed by total unconsciousness. Treatment by emetics and by stimulants cardiac and respiratory, accompanied by artificial respiration, rescued the patient and left her with no bad after effects beyond some weakness and dizziness. The amelioration of the symptoms under morphia is interesting in view of a case published by Dr Courtwright in the Cincinnati *Lancet and Observer* (1876, p. 963), in which recovery took place after poisoning by two teaspoonfuls of tincture of gelseminum, and in which the treatment consisted of hypodermic injections of morphia.—*Medical Times* for 30th Dec. 1882, quoted in *Philadelphia Med. and Surg. Reporter*, Vol. xlviii. p. 163.

Note.—Bartholow, in his *Materia Medica*, says, "Conium, physostigma, tobacco, opium, etc., when administered with gelseminum, increase its effects in the whole sphere of its physiological activity."

OCCASIONAL PERISCOPE OF SURGERY AND SURGICAL PATHOLOGY.

PULMONARY SURGERY.—Koch remarks that nine years have passed since he brought forward [1] a method of procedure by means of which certain portions of lung tissue, even whole lobes, could be converted into fibrous tissue. He used then a concentrated solution of potassium iodide, but observed that the same end was attainable by means of the galvano-cautery. He pointed out finally that since Nov. 1873 he had found a considerable number of cases in which the first or milder treatment had been put in actual operation. By means of parenchymatous injections, pure iodine tincture had been introduced into portions of lung whose tubercular degeneration had been demonstrated either by physical diagnosis or aspiration. His second plan then was to destroy with the galvano-cautery those truly circumscribed tuberculoses of the apex, and especially to treat by these means those processes in the lungs which develop independently of specific infection. Recently, in the clinik of Professor Leyden at the Charité Hospital in Berlin, Koch met with two cases which seemed suitable for operation, and proceeded, with Professor Leyden's concurrence, to put his ideas into practical form. Case 1 was that of a shoemaker aged 24. He had had pneumonia several times, the last attack in Jan. 1882. There was dyspnœa, emaciation, nocturnal sweating, and a copious and putrid expectoration (400 ccm. per diem). A vomica was diagnosed in the lower lobe of the right lung. On June 26th a portion of the 6th rib was resected, and, after the two layers of pleura had been shown to be adherent, the thermo-cautery was thrust through the lung tissue as far as the mediastinum. A large cavity was thus laid open. Reaction was slight, and the expectoration fell from 400 ccm. to 120 ccm. per diem. Again, on June 30th, after resection of the 8th rib, a funnel-shaped passage 14 cm. deep was established, by means of the thermo-cautery, through the lung tissue, but though pus was found at the further end, no large vomica was encountered. Again, on July 14, an incision was made between the 8th and 9th ribs, below and to the left of the post. ang. scap. A solution of thymol passed through the opening found its way into the bronchi and was at once expectorated with the necrotic sputum. Even this third operation did not put an end to the ejection of putrid masses. Further cavities probably exist, and Koch intends to destroy these as soon as their position has been more clearly made out by aspiration. The patient's present condition is tolerably good. The second case was one of bronchiectasis, with copious fœtid expectoration, in a woman aged 29. The sputa amounted to 800 or 1000 ccm. per diem. On July 15, 4 inches of the sixth (right) rib were resected. The thermo-cautery laid open two vomicæ, the second being of the size of a child's head. 1000 ccm. of putrid fluid were evacuated. The patient collapsed after the operation, but lingered till July 22. The expectoration had entirely vanished, and the fistula in most parts showed healthy granulations. Complications of various kinds (icterus, septicæmia), rather than the operation itself, seem to have determined the patient's death. The indications for, and method of employing, the galvano-cautery in the destruction of portions of lung tissue are thus summed up.—1. In acute gangrene developing from saccular bronchiectases. If a cavity is found during the operation, it must be laid open by a more or less capacious passage through the lung tissue, drained, and irrigated. When a number of small bronchiectases intercommunicate, they must be converted into one large cavity and treated in the same manner. 2. If acute pulmonary gangrene be present, with (as after bullet wounds of lung) dead and putrid tissue surrounded by œdematous hepatized parenchyma, cauterization of the necrotic area must be freely performed, whilst at the same time a fistula is set up. 3. A "funnel-shaped" opening through lung tissue is indicated when a foreign body in a bronchus is not expelled by the natural means, and is giving rise to extensive secondary changes. It remains to be seen whether the galvano-caustic destruction of a considerable portion of lung tissue is advisable in, 4, that form of fœtid bronchitis in which bronchial dilatations are not discoverable, and in, 5, those rare cases of completely localized tuberculosis. Koch regards excision of portions of lung unfavourably. In pulmonary prolapse, resection is an *operation de luxe*, for we know that such prolapses soon shrivel of themselves; whilst, on the other hand, it is our duty, by immediate reposition of the prolapsed portion, to prevent any curtailment of the respiratory area. If we have to treat ulcerations round foreign bodies, or the various forms of bronchiectasis, then extirpation goes too far, and is, indeed, impracticable when the areas of suppuration are seated in both lungs or in the various lobes of one. In cases of bullet wound of the lung Koch would resect the ribs and draw the root of the lung forward for inspection. Hæmorrhage being arrested, the lung is to be replaced and the pleural sac drained under an antiseptic dressing. This we must also endeavour to do in those rare cases of pulmonary gangrene where there is only an imperfect adhesion between the two layers of the pleura.—Wilhelm Koch, in *Separatabdruck aus der Deutsch. Med. Wochenschrift,* No. 32, 1882.

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[1] *Archiv f. Klin. Chir.*, B. xv., 1873.

RUPTURE OF THE TRACHEA FROM COUGH DUE TO A FOREIGN BODY IN THE AIR-PASSAGES.—Dr George M. Lefferts reports the case of a male child, æt. 3 years, with a history of having put something into his mouth two days before. Very shortly after doing so he was attacked by violent cough and became cyanosed. The latter condition passed off, but paroxysms of cough continued, and on the second day a sudden swelling of the neck and face was noticed, and the breathing had become laboured. At the time of examination the little sufferer, wan and exhausted, presented a curious appearance, the tissues anteriorly and laterally over the neck being markedly swollen or bloated, and giving a distinct emphysematous crepitation to the touch. The same condition, in lesser degree, existed over the upper parts of the chest. Tracheotomy was decided upon. The high operation was performed. The point of rupture of the trachea was located a little to the left of the median line, at about the juncture of its middle and upper thirds, the tissues between the rings being involved, not the rings themselves. Shortly after the tube was inserted the foreign body was heard to strike against it. It was at once removed, and the lower, pear-shaped portion of a common jet ear-ring was expelled far into the room. Relief of the cough was experienced, but death from broncho-pneumonia took place on the third day. Dr Lefferts considers the definite localization of the point of rupture in the wall of the trachea to be unusual. He believes that Wyatt (*Lancet,* 15th April 1882) is probably right in his explanation of the production of emphysema of the neck and chest in many, perhaps the majority, of cases where it follows violent cough, viz., that the breach through which the air escapes occurs in some small or terminal bronchus rather than in the trachea itself. In such a case the air would track along the connective tissue sheath of the bronchus until it reached the root of the lung, then diffuse itself through the mediastina, passing up out of the thorax into the neck, and downward, possibly over the muscles of the chest.—*N. Y. Medical Record,* Nov. 25, 1882.

Part Fifth.

MEDICAL NEWS.

Royal College of Physicians, Edinburgh.—The following gentlemen passed their final examination for the qualification in Medicine on 8th March 1883, and were admitted L.R.C.P. Edin.:—Frederick Niccoll Searancke, Gloucestershire; James Duncan Bluett, Brighton; John Whitehead Bentley, Denton; George Preston, Barton, near Manchester; John Penn Gaunt, Redditch; Charles Frederick Coombe, Sheffield; Richard Noss Torey, London, S.W.; Thomas Benedict Clune, London, W.C.

List of Candidates who were successful for appointments as Surgeons in Her Majesty's British Medical Service, at the Competitive Examination in London on the 19th of February 1883:—

No.	Name.	Marks.	No.	Name.	Marks.
1.	Bruce, D.,	2630	9.	Moore, R. R. H.,	2220
2.	Gordon, H. C.,	2460	10.	O'Shaughnessy, P. J. B.,	2170
3.	Bell, H. L.,	2447	11.	Robertson, J. R. S.,	2170
4.	Riordan, J.,	2435	12.	Tate, A. E.,	2130
5.	De Lom, H. A.,	2415	13.	Faunce, C. E.,	2130
6.	Firth, R. H.,	2400	14.	Lendrum, W. H.,	2090
7.	Nelis, G.,	2350	15.	Wyatt, H. J.,	2050
8.	Gallwey, P. J.,	2280			

We learn with much regret that Dr Keiller has finally retired from the active teaching of midwifery. His vast experience and immense practical knowledge rendered his lectures extremely instructive. It will be seen in our advertising columns that his museum, which is a very valuable and extensive one, is soon to be exposed for sale.

Astley Cooper Prize. — The next triennial prize of three hundred pounds, under the will of the late Sir Astley P. Cooper, Bart., will be awarded to the author of the best essay or treatise on "Diseases and Injuries of the Nerves and their Surgical Treatment, together with the Operations performed upon Nerve-Trunks in the Treatment of various Diseases, and Descriptions of the Changes which ensue in other Structures as well as in the Nerves themselves from these Operations." For conditions see our advertising columns.

The Treatment of Hysteria by Metallo-therapy.—One of our indefatigable German *confrères* contributes in the *Archiv für heitere gynäkologie* the following instance of such successful treatment of this rebellious disease that we deem it worthy of notice:—Marie O., a chamber-maid in the house of a Privy Councillor in Berlin, was compelled, among various other laborious duties, to light to the door the numerous guests who visited the house nearly every evening. The reporter had occasionally opportunity (she was charming, and nineteen years old) to notice how she comported herself to the visitors who attempted to call a smile to her lips by liberal "trinkgelder." This, however, was no easy task: on account, probably, of some anomaly of menstruation, she was hysterical, apparently; always solemn, almost melancholy in her bearing; sometimes he even thought he saw tears in her eyes. This case of hysteria, thus clearly made out, seemed to him in every way suitable for the study of the influence of metals on the psychical state, and the reporter determined at the next evening reception to which he was invited to institute some experiment on this point. Accordingly he posted himself behind her as the guests passed out in leaving the house: when nickel, copper, or silver in pieces of small circumference came in contact with her beautiful hand, the melancholic condition remained unaltered, became even, indeed, painfully exaggerated. A larger piece of silver, apparently about as large in size as a five-mark piece, seemed reflexly to call forth some transitory improvement. Suddenly, however, as a handsome young baron passed before her, and with a meaning look pressed something into her outstretched hand, he believed that a complete cure had been accomplished; he looked closer—it was a gold ten-mark piece. The above case is reported as showing the comparative value of gold and other metals in the treatment of hysteria; it would seem that, to be equally efficacious, silver must be applied in larger quantities than gold.

In the *Philadelphia Medical News* for September 1882 is an interesting and valuable paper by Dr C. Fenger on the resection of portions of ribs for the cure of empyema. This has now become an established operation, and has been successfully employed in this city and elsewhere. Dr Fenger considers the antiseptic method of treatment an essential part of the operation. He calls it a *conditio sine quâ non.* He speaks of employing antiseptics even when there is a pre-existing septic state. It is quite evident, therefore, that he does not thoroughly understand aseptic surgery. The employment of "daily washing out" of the cavity with carbolic lotion demonstrates the same fact. The operation described by Dr Fenger, and which he calls *Estlander's operation*, performed six to eight months after the beginning of the disease, and probably four or five after the occurrence of fistula, cannot be strictly antiseptic. But a really aseptic operation, performed at a much earlier date, before the empyema has become septic, is probably the operation of the future, and is dimly foreseen by Dr Fenger.

The opium question has now become a much debated one. We have received several pamphlets on the subject from various sources. Among these are, *Medical Testimonies as to the Effects of Opium Smoking*, published by the Society for the Suppression of the Opium Trade, and *The Other Side of the Opium Question*, by Deputy-Surgeon-General Moore. The principal point under discussion is whether opium smoking is a harmless or an evil thing. Among the opinions from medical men in China, India, and America that we have seen, the preponderance is towards the practice being an evil, and a very evil thing. As to the point of whether it is the occasional and moderate employment of the drug or its immoderate use that is the evil, there is a slightly different opinion. It seems to us, from a medical point of view, that this latter question has to be settled in the view of whether the opium alleviates diseased conditions. For instance, Dr Moore considers opium smoking to be a blessing for the poor creature suffering from some painful skin eruption or from rheumatism. On the other hand, Dr Gould of Swatow says, "Even those who take opium for the cure of painful diseases, as a rule, find that at the long run it ceases to relieve the disease." If there is any resemblance between opium smoking in China and morphia injection in Britain, we would say that Dr Gould's opinion is the right one. It seems to us natural, from what we have seen of the use of morphia and chlorodyne in this country, that a man who has begun opium smoking for the relief of pain would find that he had to increase the amount to obtain relief, and might come in the course of time to require a quantity that would impoverish himself and his family. We have seen persons in this country whose friends were taxed to a burdensome extent to supply what had become a necessity to a poor dying creature. We can also understand, supposing the same analogy to exist in regard to China and this country, how the use of opium deteriorates the moral and physical condition of the consumer. We know that the use of narcotics to relieve pain, for instance, lessens the power to endure pain, enfeebles the appetite, digestion, etc., and otherwise injures the patient. Dr Moore injures the cause he advocates by the unnecessary and inappropriate levity with which he treats the subject. For all this, we can see through his writings, what he cannot conceal, that he considers the habit a bad one. His main excuse (for it amounts to nothing more) for the practice "in moderation" is, that it is not quite so bad as gin and whisky drinking.

DIPHTHERIA.—Two articles, published nearly simultaneously in Sydney and Philadelphia, on this subject, have come under our notice. It may be worth while to compare accounts from such widely distant sources. We are told by Dr M'Crea of Melbourne that diphtheria has been very extensive and fatal in its ravages in Victoria. The localities in which it occurred were more in the rural than urban districts, and more in the higher and healthier parts of the towns than in the lower and flat portions. Overcrowding or want of drainage were not factors in its spread. Sewage or fæcal matter did not seem to affect it in any way. Some of its most virulent attacks were in the houses of wealthy squatters, in the open and apparently healthy parts of the country. Though violently contagious, it seemed to require a susceptibility in the individuals whom it attacked. In some instances it was proved that persons who were in close contact with the afflicted, and exposed to the same influences, were exempt themselves, but were at the same time able to carry the disease to other localities distant more than a hundred miles from the site of its first outbreak. Dr Keating of Philadelphia enters fully into the question of the relation which micrococci have with diphtheria, and points out that the initial lesion of diphtheria manifests itself in the throat, that the contagious principle which is present in the membrane can be inoculated, and that the disease first appears on that part where the inoculation has been performed, independent of any lengthy period of incubation. Both authors, though using different language, insist on the insidiousness of the onset of the disease. The micrococci, which are constantly found in the blood, first appear at the point of greatest intensity, and thence make their way through the circulation to other parts of the body. Though the authors employ different means, their principle of treatment, and even the modes of carrying it out, correspond very closely. Both insist on the influence which abundance of pure air has in lessening the vitality of the organisms, in checking the progress of the disease. As regards local treatment, Dr M'Crea relies most on sulphur—sulphurous acid applied directly to the throat, sulphurous acid inhaled by means of the spray, filling the room as much as possible with the fumes of burning sulphur. Dr Keating, again, depends on chlorine—painting the throat with perchloride of iron, inhaling the vapour of chlorine, and charging the air of the room with it. Topical applications, to be successful, must be nearly constant; in some cases they should be used every hour, day and night. Cases are cited illustrative of failure in arresting the disease, due to intermitting the local applications, either through the medium of the air or directly. Both authors strongly insist on the value of alcoholic stimulants very freely administered. Keating believes alcohol kills or paralyzes the micrococci, having found this effect to result from its use in malignant measles. A curious mode of disinfecting the rooms is recommended by Dr M'Crea. "The walls, ceilings, and floors of rooms should be washed with a coating of turpentine or benzine applied several times, and fired with a lamp immediately following the brush, the burning of the benzine cleansing the walls, wood, paint, or whitewash effectually." This plan appears especially dangerous in Australia, where wooden houses are so common.—*Australasian Med. Gazette*, 15th November 1882; *Philadelphia Med. News*, 23rd December 1882.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Superinvolution of the Uterus.* By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh, and President of the Obstetrical Society.

(*Read before the Edinburgh Obstetrical Society, 28th March* 1883.)

AN atrophic process similar to that which sets in at the menopause may affect the uterus of a woman who is still far short of the ordinary climacteric period. 1. In wasting diseases, such as phthisis, the sexual organs share in the general marasmus, and their withering is evidenced by the cessation of menstruation at varying periods before the fatal issue of the malady. 2. In some cases of paraplegia, as Scanzoni points out, the uterus withers. 3. When the ovaries have been removed, or when their vitality has been impaired by disease, the uterus is found senescent and small. 4. Pelvic inflammations, by causing, as Freund first indicated, condensation of the cellular tissues in the broad ligament, may impair the circulation in the uterine vessels, or, by producing adhesions around the uterus, as described by Jaquet, may compress the organ and lead to its atrophy. 5. Diseased conditions of the uterus itself, such as some subperitoneal fibroids or some cases of endometritis, may lead in different ways to premature atrophy of the organ. In most of these varieties the atrophic process goes on gradually and often slowly—it may be during a series of months or even years.

The variety of undersized uterus to which I invite your attention now, however, is found in most cases to have come about more suddenly, and as a sequela of labour or abortion. I accept the designation of "superinvolution of the uterus," because it seems clearly enough to denote the most striking feature in the group of cases under consideration. The designation "general hypotrophy" suggested by Chiarleoni, while aptly descriptive of the condition in some of the patients, would leave out of account those in which the diminution of the uterus is the only notable physical change. And the designation adopted by Frommel of "puerperal atrophy of the uterus" does not differentiate these pathological cases from the ordinary physiological atrophy that occurs after every labour.

PATHOLOGY.

The uterus may be variously affected. The diminution in some cases affects mainly the cervix. When the uterus can be grasped bimanually, the walls of the body and fundus feel of natural thickness and resistance, but the cervix scarce forms any projection into the vaginal roof. In these cases there are usually one or more lacerations to be traced around the os. More rarely—I think in about one in ten of the cases of superinvolution that I have seen—the cervix has remained of full size, while the body of the uterus was quite markedly reduced in size and thin-walled.

In the large proportion of cases the entire organ is withered, and the degree of diminution varies from such a slight shortening that the sound enters nearly to the 2½-inch knob, to such a total disappearance of the organ that the sound only enters for half an inch or less into a pit in the vaginal roof, or seems to pass on unrestricted till the point is felt bare through the abdominal walls.

The case recorded by Dr Whitehead is an interesting illustration of the supreme degree of atrophy. I have seen a patient with just such a shadow of a uterus left; the vaginal roof ended in a narrow *cul-de-sac*, in which a slight depression could be felt by the finger and seen through the speculum. A fine probe could be passed in for about a quarter of an inch, and the bimanual exploration, supplemented by rectal examination with a sound in the bladder, failed to recognise anything like a definite uterus. In three out of twenty-two where I have noted the length, the uterus admitted the sound 1½ inches; in eight, 2 inches; and in seven, 2½ inches.

In two of my cases the small uterus was retroflexed. More frequently it is found anteflexed.

The atrophic change frequently affects also the ovaries, which can sometimes be felt to be distinctly of small size, or may even escape palpation in women whose thin abdominal walls should have allowed of their easy palpation. The vagina has frequently lost all its rugosities, and is sometimes narrowed towards the laquear, whilst its mucous membrane is the seat of the colpitis common in elderly females.

The patients, in the greater proportion of cases, are thin and tabescent. In a few instances they look unusually stout, like the women who put on flesh in the forties. In one or two the fulness of face and limbs more resembled that of sufferers from myxœdema. The patients are drawn from all classes of the community; and I have met the superinvolution in 22 out of 1300 cases, or a proportion of nearly 1·7 per cent. Frommell met it in 29 out of 3000 cases in the Berlin Polyclinic, or in the proportion of nearly 1 per cent. Professor Müller of Berne thinks Frommell's estimate is low, and I do not doubt that Müller is correct in his suggestion that there are cases of transitory superinvolution in which the uterus, a few weeks after labour, has got reduced below the normal standard, but afterwards becomes regenerated. At least I have seen one case where a subinvoluted uterus, under the influence of ergot, lessened so that for a time the sound barely entered to the knob, and again enlarged so as to let it enter the full length. Among the cases tabulated by Dr Sinclair of Boston there are twenty-two cases where the uterus is noted as being under 2¼ inches, although the observations were all taken within nineteen days after the confinement.

The ages range in Frommel's cases between 19 and 40, with a medium of 29·6. In mine they range from 21 for the youngest to 40, with a medium of 30; one being 40, one 36, one 35, two 33, one 31, three 30, one 29, three 28, one 27, one 26, one 25, one 24, one 23 years of age, and one 21.

With Frommel it occurred in nine after one labour, in two after two, in six after three, in four after four, in four after five, in one after six, in one after seven, in one after eight, and in one after nine labours. In three of my cases it came on subsequently to abortions. One of them had aborted once, one of them twice, and one had had a full-time child eighteen months before she came under observation, and an abortion about six months after her confinement. As regards the number of children, only one of my patients—the woman of 36 with a slightly superinvoluted and retroflexed uterus—had had as many as eight children, one aged 33 had had five, four had had three, three had had two, and eight had had only one child. The period that had elapsed from the date of the last confinement until the patients came under observation varied in the pronounced cases from five months to five years.

ETIOLOGY.

In trying to trace out the conditions under which superinvolution of the uterus occurs, we must remark its association with

1. *Wasting Constitutional Diseases.*—I have already referred to the atrophy of the uterus that takes place in patients affected with *pulmonary phthisis*, and it is interesting to observe that a considerable proportion of the cases of superinvolution have occurred in phthisical women. The peculiarity of the relation in this instance, however, consists in this, that whereas the ordinary atrophy of consumptives begins to manifest itself in advanced stages of their disease, superinvolution may set in in a woman who previously to her parturition showed no phthisical symptoms. She comes under observation because of the persistence of her amenorrhœa at a time when as yet no organic change can be discovered on physical examination of the chest, and it may be long subsequently that she succumbs to the constitutional disease. Besides having had repeated occasion to trace the occurrence of superinvolution in connexion with phthisis, I have observed it in a woman who became the subject of marked Addisonian disease; and in another,

where it followed an abortion in a primipara of 40 years of age, the constitution was impaired through the development of a large sarcomatous tumour of the thigh.

2. *Anæmia.*—The most fruitful cause in the production of superinvolution, according to my experience, is the complication of the antecedent labour or abortion with a pronounced hæmorrhage. My attention was first called to the connexion between flooding and superinvolution about five years ago by seeing in my consulting room, in the course of one week, three cases of the disease; and in all the three the patients had suffered from excessive loss of blood. In some cases the hæmorrhage is unavoidable or accidental; more frequently it occurs during the third stage or post-partum. In one of the three patients I have just spoken of lactation was carried out for eleven months, and during all that time the patient had daily losses of blood.

The normal involution of the uterus resulting from the fatty degeneration of the functionless muscular fibres is mainly due, as is well known, to the diminution of the blood supply in the walls of the organ. This helps us to understand how, in patients who have suffered from great loss of blood during labour, the involution of the uterus will be likely to go on rapidly and to excess. In the second group of cases tabulated by Dr A. D. Sinclair in his interesting communications on the measurement of the uterine cavity in childbed, out of 108 women 22 were found to have the uterus measuring less than 2½ inches, and of these 22 four are noted as having suffered from hæmorrhage in connexion with labour. Of the 22 cases which form the basis of this communication, hæmorrhage in a more or less marked degree had complicated the antecedent labour or abortion in ten of the patients.

3. *Nervous Derangement.*—I have not within the last few years had occasion to observe the relations of insanity to superinvolution, but I know that this morbid change in the uterus sometimes affords an illustration of the reciprocal influence of uterine and nervous disorders, and might well have been included among the morbid conditions referred to by Dr V. de Fourcauld in his "Étude sur les troubles du système nerveux central consécutifs aux affections diverses de l'appareil utéro-ovarian" (*Annales de Gynécologie*, xii. and xiii.) For I have formerly met with a few cases of puerperal insanity where the most pronounced local change was found in a uterine superinvolution. In one case the result illustrated De Fourcauld's sixth conclusion, "La guérison des maladies curables de l'utérus entraîne de l'aliénation mentale;" in another, the result confirms conclusion seven, "Si la maladie utérine est incurable, l'aliénation s'aggravera et deviendra démenu." Short of mental derangement, however, I have in several cases remarked a marked diminution in the intellectual powers, or a thickness and hesitancy of utterance, or unsteadiness of gait, in patients affected with super-

involution, which gives good ground for supposing that in such patients the nervous system is primarily at fault, and the defect in redevelopment of the uterus is a consequence of the loss of the trophic influence of the nervous apparatus. I have already referred to the uterine atrophy associated with paraplegia, and in this connexion it is well to bear in mind such cases as have been recorded by O'Brien, Gregg, and others.

4. *Over-Lactation.* — The influence of the fulfilment of the mammary function on uterine contraction is well known, and the pernicious influence of too great or too long-protracted suckling has been noted by Chiari, Frommel, and others, as giving a special proclivity to superinvolution. Frommel is disposed to attribute a large proportion of cases of superinvolution to this cause. I have only noted it in 2 out of 22 cases. In one of these patients the system was further weakened by an abscess in the leg. In the other, after she had ceased to suckle her child, a troublesome galactorrhœa remained, for which, as much as for the superinvolutionary amenorrhœa, she sought advice.

5. *Rapid Succession of Labours.*—Kiwisch first, and after him others, have supposed that when a woman has had a series of children with too short intervals between, the system becomes exhausted and uterine atrophy ensues. Mr Whitehead records his case as one of "absence of the uterus after repeated pregnancies;" but it is noteworthy that all her labours were complicated with hæmorrhage, and most of all after the birth of the last child. "On that occasion," says Mr Whitehead, "she was attended by Mr Rothwell, who did not arrive for some hours after the child's birth; the placenta had not come away when he got there, and this he appears to have removed. Hæmorrhage subsequently took place to such an extent that he found it necessary to remain with her five or six hours, during the greater part of which she was delirious." This case is for me, therefore, a typical illustration of a superinvolution from anæmia. I have not met with a case where I could connect superinvolution with a rapid succession of labours. Under such conditions subinvolution is very common.

6. *Local Inflammations.*—Now and again the diminution in the size of the uterus follows on some injury inflicted during the labour, or inflammatory mischief set up during the puerperium. Rokitansky has signalized the shrinking of the cervix when it has been lacerated. Kiwisch has spoken of the destructive results of diphtheritic endometritis. A cellulitis atrophicans may arise after a confinement, but probably the local inflammations most likely to be followed by superinvolution are those ovarian inflammations which are attended by follicular degeneration, and lead to destruction of the functional activity of the ovaries themselves. When the vitality of the ovaries is thus impaired, sooner or later the uterus shares these conditions.

There may possibly be other causes. I could conceive, for example, that the influence of ergot unduly administered might tend to superinvolution. But all the cases I have met with can be ranged under one or other of the causal groups which I have attempted to describe.

SYMPTOMS AND DIAGNOSIS.

The symptom which in most women attract their attention to this disease is amenorrhœa. In some of them there is no return of menstrual flow subsequently to their parturition; in others there is a menstrual discharge, but very slight in amount and short in duration, or recurring at prolonged intervals. Sometimes sterility prompts them to seek for advice; and, as Chiarleoni points out, they will sometimes complain of or confess to anaphrodisia.

The diagnosis is made by the usual gynecological investigation, and especially by the bimanual examination — not merely abdomino-vaginal, but these combined with rectal and sometimes vaginal exploration. The sound is eminently serviceable, but must be used with caution, because of the thinness of the uterine parietes. In the superinvoluted uterus the walls are not only very thin; they are unusually soft and lacerable, so that the sound is easily pushed through. The volsella is often helpful for pulling down the uterus into the vaginal canal while the finger in the rectum reaches up the back of the organ and appreciates more fully its proportions.

TREATMENT.

1. *General.*—In treating a patient who is the subject of this affection we must have regard, first of all, to her constitutional condition and the circumstances under which the superinvolution has been produced. Any drain on the system must be checked; any constitutional weakness must be combated. The anæmic female must be treated with hæmatinics; and those with mental and nervous derangements with appropriate remedies and remedial measures. If there remain any trace of local inflammatory action, this must be met by hot vaginal douches and counter-irritants, while the patient is made to use tonics of various kinds internally.

2. *Local.*—The uterus may be stimulated in a few cases to redevelopment. Such an attempt is useless where the patient, *e.g.*, is phthisical or the ovaries gone. But in some the occasional introduction of a sound or of a dilating bougie has been found useful in re-exciting the menstrual flow when the patient has taken iron and other emmenagogues for a time, with the effect, perhaps, of improving the general condition but not of procuring the uterine discharge. In yet others the wearing of an intrauterine stem promotes the development of the uterus. In several instances I have witnessed the growth of a superinvoluted uterus whilst the patient was wearing

the stem-pessary made partly of zinc and partly of copper. In some it brought about the restoration of the menstrual flow; and in one patient, in whom the superinvoluted uterus was little over 2 inches, the wearing of the galvanic pessary was followed by such a regeneration of the organ that its functional activity was fully restored, and I had the satisfaction of attending her at the birth of a living child. I append in a tabular form the details of my own cases and of those of other writers.

		Age.	No. of Children.	Time since last Confinement.		Size of Uterus.	Cause.	Complication.
				Years.	Months.			
Private Cases.	I.	31	2	6	0	1½	Hæmorrhage.	
	II.	36	8	0	3	2½	Do.	Retroflexion.
	III.	33	1	6	0	2½	Daily loss during 11 months' lactation.	Phthisis.
	IV.	27	3	0	5	2	?	Phthisis, Senile Colpitis.
	V.	30	1	0	6	1½	Suppuration of Breasts, 3rd Week.	Phthisis advanced.
	VI.	28	1	6	0	2½	Superlactation.	Abscess in leg.
	VII.	25	1	1	5	2	Lactation persisting, Hæmorrhage.	
	VIII.	30	1	1 Abortion 6 months after.	6	2		Cervical Laceration.
	IX.	33	5	1	4	2	Hæmorrhage.	
	Note.—This patient had been married seven years, and had five children in six years, flooding with the last. She had also slow speech, staggering gait, and general drowsiness.							
	X.	28	3	3	0	½	Hæmorrhage.	
	XI.	40	1 Abortion at 4th month.	3	6	2	Hæmorrhage.	Sarcoma of Thigh.
	XII.	30	1	5	0	2	?	Retroflexion.
	XIII.	29	1	0	8	2	?	
	XIV.	35	3	5	0	2½		
	Note.—No. XIV. had nursed her last child fifteen months. Her mother and aunts ceased to menstruate short of 40.							
Ward Journal.	XV.	28	2	2	7	2½	Superlactation.	
	XVI.	26	2	?		1½	?	Lacerated Cervix.
	XVII.	24	3	2		2	Hæmorrhage and Lactation.	
	XVIII.	21	1	0	2	2½	Hæmorrhage.	Phlegmasia Cruris.
	XIX.	23	2 abortions.	1	6	2½	Do.	Anteflexion.
	XX.							Addison's Disease.
	XXI. XXII.	Two cases in Out-Patient Book, details not noted.						
		22 in 1300 cases = 1·7 per cent. nearly.						
Chiari	XXIII.	36	1	8	0	2	Lactation.	
	XXIV.	28	1	1	2	2⅓		Cervix atrophied.
Chiarleoni	XXV.	26	3	1	0	?		General Atrophy, Nervous Disease.
	XXVI.	28	1	4	0	2		
Jaquet	XXVII.	25	2	4	0	½	Suppuration in Breasts.	Parametritis, Diphtheria.
	XXVIII.	30	1	1	6	⅓		Do.
Whitehead	XXIX.	39	4	11	0	Absent	Hæmorrhage.	

Frommel also mentions 29 cases; but as he neither gives the size of the uterus nor the cause, they are not given in above table.

The subject of superinvolution of the uterus will be found discussed in the following systematic works and papers:—

KIWISCH.—*Klin. Vorträge*, etc., 4 Auflage, Prag., 1854, Bd. i. S. 112.

SCANZONI.—*Lehrbuch der Krankheiten der Weiblichen Sexualorgane*, 4 Aufl., Bd. i. S. 81.

SCHROEDER.—*Handbuch der Krankheiten der Weiblichen Geschlechtsorgane*, Leipzig, 1879, S. 82.

BARNES.—*Diseases of Women*, 2nd edition, London, 1878, p. 470.

COURTY.—*Diseases of Uterus* (translated by Dr Agnes Maclaren), London, 1882, p. 620.

HART and BARBOUR.—*Manual of Gynecology*, Edinburgh, 1882, p. 246.

KLOB.—*Patholog. Anatomie der Weiblichen Sexualorgane*, Wien, 1864, S. 205.

SIMPSON, SIR J. Y.—"Morbid Deficiency and Excess in the Uterus after Delivery," *Selected Obstetrical and Gynecological Works*, 1871, p. 595. "On Superinvolution of the Uterus and Amenorrhœa," *Clinical Lectures on Diseases of Women*, p. 597.

CHIARLEONI.—"Iperinvoluzione Uterina," *Gazzeta degli Ospitali*, Anno i., No. 23.

CHIARI, BRAUN, SPAETH.—*Klinik der Geburtshülfe und Gynækologie*, Erlangen, 1855.

FREUND, A. D.—*Monatschrift für Geburtskunde*, vol. xxxii., 1868.

FROMMEL.—"Ueber Puerperale Atrophie der Uterus," *Zeitschrift für Geburtshülfe und Gynækologie*, Band 7, Heft ii. S. 305.

HEGAR.—"Die Castration der Frauen," *Volkmann's Klinische Vorträge-Gynækologie*, 42, Leipzig, 1848.

JAQUET.—"Ueber Atrophia Uteri," *Beiträge zur Geburtshülfe*, Bd. ii. S. 3, Berlin, 1873.

MÜLLER.—*Archiv für Gynækologie*, Bd. 20, Heft. ii. S. 324.

SÄNGER.—*Archiv für Gynækologie*, Bd. 20, Heft ii. S. 306.

SINCLAIR, A. D.—"A Case of Superinvolution of the Uterus," *Boston Medical and Surgical Journal*, 1877. "Measurements of Uterine Cavity in Childbed," *Transactions American Gyn. Soc.*, 1879 and 1881.

WHITEHEAD.—"A Case of Absence of Uterus after Repeated Pregnancies," *British Med. Journal*, Oct. 1872, p. 408.

ARTICLE II.—*Unusual Case of Strangulated Congenital Hernia.*

By A. G. MILLER, F.R.C.S.E., Surgeon to the Royal Infirmary.

PETER S., æt. 27, married, a mason, was admitted into the Royal Infirmary on Saturday, the 3rd February 1883, suffering from a painful swelling in the right inguinal region which was evidently a hernia.

Patient stated that for the last three years he had occasionally noticed a swelling at the right side of the scrotum, which, however, never gave him any pain or discomfort, and always disappeared on his lying down.

On the afternoon of Saturday, the 3rd February, he left his work as usual, went home to dinner, and was sitting quietly after dinner, when the swelling came down, much larger than usual, and accompanied with great pain.

The pain was so severe that a doctor was sent for at once, who attempted taxis, but unsuccessfully, and therefore sent him into the Infirmary.

On admission, my house surgeon, Dr Keep, deemed it unadvisable to apply any more taxis, and at once sent for me. When I saw the patient, six hours after the descent of the hernia, I found him shouting out with pain and disturbing the whole ward. Accordingly, having satisfied myself that the swelling was a hernia, I had him at once placed under the influence of chloroform and removed to a suitable room for operating. On examining the parts more carefully I found a red and very tense swelling occupying the right inguinal canal and scrotum. Even under chloroform the hernia refused to be returned. Accordingly I at once decided to operate. An incision about two inches in length was made over the region of the external abdominal ring. The coverings, which were very distinctly seen, were easily divided and the sac reached. This was opened, when a portion of dark-coloured bowel presented itself, and a small quantity of dark fluid escaped. The opening in the sac was enlarged sufficiently to let me insert my finger, which I immediately passed up towards the inguinal canal. To my surprise, my finger passed freely into and along the inguinal canal. There was no constriction at either the external or internal abdominal ring. On making a free opening in the sac, drawing out the contents, and carefully examining them, I found a considerable portion of omentum besides the knuckle of bowel. This omentum was about six inches in length, much twisted, adherent to itself at different parts, and also to the sac (shown at previous meeting). Carefully unravelling the omentum, I discovered that the knuckle of bowel had forced itself through it (the omentum) near the upper end, and was constricted by the opening through which it had passed. The difficulty in returning the bowel was now explained, as well as the cause of strangulation demonstrated. I placed a Spence's director between the bowel and omentum, on which a probe-pointed bistoury was passed and the omentum sufficiently divided. I then drew down the bowel, and, as it was healthy, returned it at once to the abdomen, the omentum being held steady by Dr Keep. The question then was, what to do with the omentum. As it was adherent to the sac and very much twisted and adherent to itself, I considered it safer to remove it than to return it, lest it should again be the cause of a strangulation. The omentum was consequently secured with two catgut ligatures, cut off, and the stump returned within the abdomen. The hernia being of the congenital variety, the testicle was found lying uncovered at the bottom of the sac. I therefore stitched the lower part of the sac over the testicle, then brought the pillars of the external abdominal ring together with strong catgut, and secured the external wound with two sets of sutures, deep and superficial. The wound, which was treated antiseptically, was dressed five times, and was found perfectly healed on the eighteenth day. The temperature did not rise above 99° till the ninth day, when it was 103°. This was caused by the occurrence of a small abscess at the upper part of the wound, in the line of one of the deep stitches which was very tight. Bowels were moved on the fifth day and again on the ninth with castor oil. Everything progressed satisfactorily, and the patient is now perfectly well.

Remarks.—It seems to me that there are several unusual and interesting points in this case which make it worth recording.

1. It is unusual to have a hernia descending and becoming strangulated without some special exertion as a cause. The man is perfectly positive, however, that he was making no exertion of any kind whatever at the time of the descent. It is very curious, also, that the hernia, which came down so easily apparently, should have become at once so painful and so tense. The ordinary symptoms of acute strangulated hernia were well marked. It is possible that the peculiar cause of constriction may account for the ease with which it was produced.

2. Another interesting, and, I believe, rare feature in the case was the presence of a large portion of omentum. I think it is unusual for a congenital hernia to contain so large a mass of omentum. From the history of the case I am inclined to think that it was the omentum that had been noticed occasionally during the last three years, and that the patient was mistaken in supposing that it disappeared entirely in the intervals, at least laterally, seeing it was adherent to the sac at different points, though these adhesions were not very dense. The adhesions of the omentum to itself in its twisted condition were very dense and intimate, and evidently of old standing.

3. A third interesting point was the freedom of the inguinal canal from constriction. I was able to pass the forefinger of my right hand freely into the inguinal canal and on into the abdomen. It seemed remarkable to me, at the time of the operation, that the bowel would not return within the abdomen, though there was no constriction at any part of the sac or in any of the structures outside. Of course, the condition of the omentum and the relation of the bowel to it explained this.

4. A fourth circumstance—probably the most remarkable and unusual—was the cause of constriction, namely, the passage of the bowel through an opening in the omentum.

In imagining the manner in which this had occurred, I would suppose that the omentum, being down to the full extent, and also being adherent at more points than one to the sac, was tolerably firmly fixed. The bowel, being then forced downwards through the inguinal canal in the ordinary manner, had become entangled in the twisted omentum, and perhaps entering a cul-de-sac, had forced its way through the omentum, and thus had become strangulated.

I am not aware of any similar cause of strangulation having been recorded in congenital or any other form of inguinal hernia.

The main practical interest of this case seems to me to centre in this, that had the hernia been reduced without operation, the strangulation, and consequently the patient's condition, would have been unrelieved. The reduction was evidently prevented by the adhesions to the sac, and had these not existed, or had they been overcome, the reduction would have been of the character described as reduction "*en bloc.*"

In the *Edinburgh Medical Journal* for February 1879, Professor Annandale has a paper on the treatment of cases of hernia reduced *en bloc.* In the number for August of the same year is a very able and valuable article by the late Professor Spence, pointing out the manner in which this reduction *en bloc* usually occurs.

Professor Annandale quotes a statement from a paper by Mr Birkett of three different ways in which this reduction *en bloc* may occur.

1. Tearing off of the neck of the sac, which allows the bowel to be pushed back, still strangulated by the neck.
2. Rupture of the sac, its contents being forced into the abdominal walls external to the peritoneum.
3. The reduction of the hernia into a pouch or dilatation formed from the original sac.

These latter forms closely resemble the cases described by Professor Spence, where, in his experience, which was very extensive and varied, the reduction *en bloc* most frequently occurred.

The case mentioned by Professor Annandale differed from any of the above in being a reduction (if the term can be properly so applied) of the hernia in the sac; thus making a fourth manner, and the most complete form, in which the reduction *en bloc* may take place.

In my case, had reduction been effected without operation, it would have differed from all these. Fortunately for the patient, reduction was prevented by the adhesions.

ARTICLE III.—*A Fourth Case of Resuscitation of the Still-born Infant.* By ROBERT BRUCE, M.D., Edinburgh.

(*Read before the Edinburgh Obstetrical Society, 31st January* 1883.)

I WAS sent for on 8th January to attend Mrs S., in labour with her second child. The case was a footling one, and as the os was soft and dilatable, but the pains inefficient, I drew down the feet and assisted the natural efforts by traction; but after extrusion of the body so far as the insertion of the umbilical cord, I found it very difficult to relieve the head and shoulders, and so much time was lost in its accomplishment that I was much afraid the child would not be alive when born. At last I was enabled to bring down first one arm and then the other, after which the head soon followed.

The mother, whose first child was still-born, hearing no sound, anxiously inquired whether the child were dead. Knowing the lengthened period which had elapsed from the time the cord became compressed by the vaginal walls,—I should say not less than ten minutes,—and being unable to detect the slightest pulsation on pressing the fingers upwards under the ribs, I could have answered, Yes, and past all hope of recovery, but refrained from doing so until artificial respiration had obtained a full trial, remembering my success on a former occasion where no cardiac pulsation could be felt.

Almost despairingly I introduced my tube into the infant's larynx, and carried on artificial respiration as described by me in former papers (see Vols. IV. and V. *Obstet. Trans.*). Steadily and perseveringly I continued the process, until, after the lapse of about ten minutes, as nearly as I could calculate, pulsation of the heart became feebly perceptible.

Encouraged by this unlooked-for success, I felt confident that the child would be brought round. Five to ten minutes, however, elapsed without any further signs of life; then the first spontaneous inspiration took place, very slight, but still observable. Two or three minutes later a second similar gasp occurred, which was followed by others, singly and at long intervals—so long, indeed, that it kept me in doubt whether I should succeed after all. By-and-by the inspirations became more frequent, and at last, after three-quarters of an hour of unremitting exertion, I had the satisfaction of placing a living child into the hands of the nurse. Latterly, when natural respiration, though slow, was becoming an established fact, I removed the tube and made use of the ordinary methods,—Sylvester's and Marshall Hall's,—the latter being useful as allowing any fluids to run out of the mouth. I also kept up the heat of the body by occasional immersion in hot water and by friction.

Remarks.—This is now the fourth case of resuscitation of the still-born infant which I have brought before the Society. In two of these (see Vol. IV. *Trans.*) the heart could be felt to pulsate. In the other two (the present case and one recorded in Vol. V. *Trans.*) no pulsation could be detected. In all, I feel convinced that no other method would have been successful, but the most noteworthy cases are those where the heart had ceased to beat.

In the first of the four cases animation was restored in about half an hour. In the second the child was brought round and life sustained for an hour and a half, until it was evident that some physical cause existed inimical to the continuance of life; but it was a marked example, nevertheless, of the efficiency of the method, life ceasing the moment it was discontinued.

The third case respired naturally after the lapse of thirty-five minutes, but survived only a day or two.

The fourth case required three-quarters of an hour to resuscitate, and the infant did well. It may be observed, in connexion with this subject, that where the child is still-born without any apparent reason for it, the ultimate result of resuscitation may not be satisfactory, as exemplified in Cases 2 and 3; but in others, such as No. 4, where a distinct mechanical cause has existed, if our efforts to resuscitate are crowned with success, we have no reason to fear that the child will not survive.

ARTICLE IV.—*Surgical Experiences in the Zulu and Transvaal Wars,* 1879 *and* 1881. By D. BLAIR BROWN, F.R.C.S. Edin., Army Medical Department.

(*Continued from page* 830.)

THE DRESSING OF GUNSHOT INJURIES.

IT is very difficult to understand what the term "antiseptic" means when applied to the dressing of wounds. I remember, when a pupil of the late Professor Syme, he taught us the theory of the germs in the air, and the practical way of keeping them out by means of putty in which carbolic acid was mixed, placed on a sheet of some metal. Then came an elaborate system of steam-sprays, innumerable coverings of gauze, solutions of varying strengths of carbolic acid, carbolic acid and oil, shellac plaster, and now we have solutions of chloride of zinc, boracic lint, and iodoform, with or without the spray. Theory and practice seem to accommodate themselves in a strange way when some change takes place. Seeing it is so difficult even to keep one's self acquainted with the "latest" fashion of dressing wounds "antiseptically," I determined to arrive at a conclusion as to the best modern method of treating wounds, without reference to theory. And here let me say that the teachings of the illustrious Professor Lister helped me more than any one else. As an army surgeon, I knew from personal observation that Mr Lister's mode of dressing wounds was quite impracticable in the field; and as I have always doubted the value of "spray" and "gauze," I was not sorry to adopt other means. In both wars I have felt such confidence in my dressing, that though much tempted to use the elaborate system so often pressed upon me by surgical nurses of vast experience, I have never yielded. Had I done so, my results would certainly have been claimed by the advocates of the "spray" and "gauze." To keep quite clear of what is commonly called—not what Mr

Lister and his followers call—antiseptic dressings, I avoided carbolic acid entirely. When it was used, it was only to wash out open wounds, and in a watery solution form. This was done after the supply of Condy's fluid, which I had previously used, ran short.

When sequestra of bone or bullets were removed, the wound was mopped out with tenax—tarred tow; a suitable drain was invariably made, either by the wound itself or by a counter opening, and a tube inserted. Then the wound was closed, a piece of dry oiled silk as a protective placed over the wound, a good pad of loosely-opened tenax placed over all, and secured by an ordinary triangular or roller bandage. No fluid, either in the form of spray or lotion, was, as a rule, used. If the parts surrounding the wound were dirty, then soap and water was applied; but the wounds were kept perfectly dry.

In excising a joint or removing a limb, much the same proceeding was adopted. The greatest attention was paid to drainage for two or three days after an operation; every point in which there was the slightest chance of effusion, or pus lodging, had a tube inserted. Rarely were the dressings removed the day after the operation, but generally on the second one. When the cases were not very severe, such as an ordinary excision of an elbow, amputation at the shoulder, thigh, or leg, the cases were quite healed in a fortnight; and with this method of treatment (if the operations be done early after the injury) there are very few cases that could not bear transport from the locality of military operations to the reserve base in three weeks' time. In one case I took an arm off at the shoulder-joint, and it was quite healed by the fourteenth day, on which the patient started, under my care, along with a number of others, for the base, and went all the way from Newcastle to Maritzburg—200 miles—taking fourteen days to traverse, and walking part of the way quite cheerily with the other members of the convoy. This shows what can be done in warfare, and is a more important fact, when reflected on by military medical organizers, than at first sight appears. It is, therefore, both in the interest of the patient and the country that early operation in proper cases should be done. The wounds were dressed as frequently as necessity required. Some needed very few, while others, chiefly the shoulder smashes, from the implication of the scapula and its processes, required more. The temperature is always a delicate guide in the progress of the healing of wounds, and as to the necessity of opening to re-dress them.

While I am writing these pages, the following case is under my care, an officer's wife affected with scirrhus of the right breast. I removed the whole breast, and dressed it in the simple manner above described—oiled silk, tenax, and drainage. It was only dressed three times, and was healed by the eighth day. On the tenth the patient was out driving, and on the twentieth day she went for a trip to Belgium.

I do not, for a moment, give this case for any other reason, than to show that this simple method of treating wounds is satisfactory. The healing of wounds is as much an act of nature as the birth of a child; and if meddlesome midwifery is bad, needless interference with wounds is equally so. Cover up any wound when once its lips are drawn together, place on it oiled silk,—a substance with no medicinal virtue, only, being smooth and soft, it lies on the part without irritating the wounds, and allows nature's efforts, the more or less exudation of lymph or pus cells, to take place in or from the wound,—and non-interference and union is the result. Such dressing, to the army surgeon, commends itself even more highly than to the ordinary civilian one. Here we have an armamentarium of the most simple and easily conveyed description. The tenax used by me for the dressing of the wounded from Rorke's Drift, and some of that at Ulundi, had served the purpose of a soft agent for packing the medicine-bottles in their boxes. With this, and an ample supply of oiled silk, which occupies but little space, and sufficient drainage-tubes, I want nothing more for the ordinary treatment of gunshot injuries. Boracic lint was used with benefit in foul sores. Sponges should never be used in military hospitals except to wash the surroundings of a wound. The utmost cleanliness of hands, instruments, and wards or tents is, of course, imperative. Continentalists often forget this; hence the great contrast met with by them between antiseptic and non-antiseptic. For bringing the lips of a wound together I naturally used the catgut supplied liberally for the purpose in the Boer war. I regret it did not answer. Absorption took place before the wounds had firmly healed. On arrival in England I found the great inventor had made another innovation to remedy this objection. Green catgut was now recommended, and possessed less absorbent properties. I still give the preference to the silver wire, and until these new things have been more thoroughly tried and their efficacy proved I shall not experiment any more with them. In the largest number of bleeding-points one sees when performing an operation, catgut such as we had did well; but for ligaturing a main artery in field practice, he would be a rash man who would use catgut for such a procedure. In quiet hospitals at home, without the possibility of sudden excitements, such as always take place with, and more frequently without, cause, in war times, such might safely be done, but not in army service.

As regards drainage-tubes, those sent out to us were all made of dark vulcanized indiarubber. Now, as they nearly always parted with their colour when in use, it seems to me that the gray-coloured tubes are preferable. The old-fashioned tourniquet, with buckle, belt, and pad, was never used by me. In every case the simple elastic ligature of Professor Esmarch was found suitable. In this instrument we have received, next to the drainage-tube, the greatest boon to military surgery which the last quarter of a century has bequeathed. Not half the assistants or anxiety need be associated with operative interference as before. The bloodless method (as taught by Esmarch) by the use of the elastic bandage, has been eclipsed by the equally satisfactory and much easier applied discovery of Professor Lister's, elevation of the limb for a few minutes previous to the application of the ligature, to arrest the circulation. This I found to answer every purpose, and the operations were almost bloodless.

ERYSIPELAS OCCURRING AMONGST WOUNDED IN FIELD HOSPITALS.

Probably no better air and climate exists than that of South Africa, and the wounded, being treated in tents, marquees, and huts, had every possible advantage. Yet cases of gangrenous sloughing of flaps after operation, and several cases of well-marked erysipelas, took place. As I had no experience of the former, the following remarks will be limited to the latter. No matter how carefully wounds are dressed, or in what manner, if surgeons and attendants are told off so as to attend to cases of erysipelas occurring sporadically, and also on numerous cases of gunshot injuries, the chances of this disease spreading are very great. It is not always possible to find any class of officers, when suddenly placed in the midst of an amount of work they have never before been called upon to perform, able to keep their natural balance and not lose their heads. Hurried and distracted with minor and often foreign duties, they are apt to neglect or insufficiently attend to their more specific ones. When regulations are framed on any point, it is always easy to quote them, and generally with good result. This subject is one requiring such regulations most urgently. It is always an easy matter to detail both medical officers and attendants doing duty in the medical divisions of the hospitals to look after such cases, and to prevent them, even as assistants or spectators, being present during any surgical undertaking. The cases I saw of gunshot injuries contracting erysipelas (in my opinion) from the attendants, and the consequent gravity of such cases after recovery from the inflammatory affection, was one of the most practical lessons I learnt in my field service. The cases of erysipelas which I saw were at first sight very like the symptoms present in cases of acute ostitis, and the subsequent results, as proved by the radical operative means which had to be resorted to, in so many instances, tended to show that both were combined. Never in one single instance were cases so attacked found in such a favourable condition as before. In one case, when I had successfully performed an excision of the shoulder-joint, and when a most successful limb had resulted, after being attacked by erysipelas it was found necessary, owing to the acute periostitis and ostitis which ensued in the shaft of the humerus, to amputate the limb at the joint. In another case, that of a captain in the —— regiment, on whom I was asked to perform whatever operation I considered right, even to the amputation of the arm, I found the shaft of the humerus not so badly injured as to exclude the possibility of saving the limb. He was attacked by erysipelas, and his chance disappeared.

From the way the products of this specific inflammation burrow between the periosteum and the bone, and also between the muscles, it is necessary to make free incisions down as far as such a state of parts exists, and as early as possible whenever the probe or other symptoms denote that such is the case; and a drainage-tube should be introduced. Treated thus, there is a fair chance of a case doing well even after it has contracted erysipelas.

GUNSHOT INJURIES OF THE HEAD, FACE, AND NECK.

In laager fighting, such as at Rorke's Drift and Kambula, the heads and shoulders of our troops were chiefly exposed to the Zulus. Consequently, most of the severely wounded under those conditions received penetrating injuries to the head, which necessarily ended fatally. At Ulundi a Zulu chief called Stulumaan was taken prisoner after the action, and it was found he had been hit by one of our bullets. The missile entered behind the lobe of the right ear, and, passing internally across the cheek, lodged in the fold of the upper eyelid, from which it was removed.

CASE I.—No. 1112, Corporal J. L., of the 2nd 24th regiment, when engaged in the defence of Rorke's Drift, received a bullet in his neck, near the posterior margin of the sterno-mastoid on the left side, about the upper portion of the middle third of its length. Only one wound, that of entrance, was present. He complained of great pain in the neck on the slightest movement. When in bed, the pillow caused an increase of this. He had lost almost all use of his arms and hands, especially the right one, which he described as "quite dead." Painful "twitchings" were experienced in the arms. Whenever he wished to move his head from the bed, some one had to support it between their hands before he could do so. At Rorke's Drift several surgeons tried to find the bullet, but were unsuccessful. In the above condition he came under my care at Helpmakaar on the 26th January 1879, four days after the injury. Next day I put him under chloroform and made a prolonged attempt to find the bullet. The course I found it had taken was in a direct line with the spinal cord. I made a free opening in the middle line as far down the course as possible, and again attempted to reach the bullet. I found by digital examination now that the processes of two adjacent vertebræ were smashed. I could also feel the spinal cord itself. Pressure thereon instantly caused the patient to turn pale and the pulse to be almost imperceptible, and necessitated the immediate withdrawal of the chloroform and the adoption of artificial respiration. I took away several pieces of the vertebral processes which were lying loose, but had to give up attempting to reach the bullet. The case continued much as described for some time. He was sent to the base hospital at Ladismith, and on taking over the medical charge of that hospital a month later, I found my old patient much in the same condition. He was suffering greatly from the pain in his arms, and wished "to have them both off to relieve him from it." On examination, on making firm pressure, I found a distinct hard substance beneath the ligamentum nuchæ which was not present on former occasions. On consultation with the Surgeon-General of the forces, who happened to be on a tour of inspection at the time, I cut down upon it and enucleated an ordinary round bullet with a rather long rough process extending from its smooth surface. This wound healed rapidly, but the original one continued to discharge slightly for a long time. In a few days the pain entirely disappeared from his arms, and their use nearly returned. He was shortly after this sent home to England.

CASE II.—No. 893, Private J. R., of the 58th regiment, was hit at Lang's Neck in the middle of the right cheek, through the malar bone; the bullet took a course downwards across the ramus of the jaw, through the neck, including the sterno-mastoid muscle, down to the shoulder towards the scapula, and made its escape near the lower side of middle of the scapular spine, passing in its whole long course beneath the skin. Several pieces of bone had come away. On the 15th of May, there being several small abscesses present, one over the mastoid process of the temporal bone, another at the middle of the sterno-mastoid muscle, and a third at the ramus of the jaw, I opened them all and gave vent to collections of pus and bony *débris;* the latter was chiefly from the injury to the malar and inferior maxillary bones produced by the bullet in its course. On probing the wound of exit, a large amount of bare bone was present, the spine of the scapula being chiefly implicated. No loose portions were detected. On the 7th June I made an incision over the spine of the scapula in order to ascertain the amount of bare bone present which was keeping up so much suppuration and delaying the man's recovery. I found the whole of the ridge called the scapular spine, bare, freed of its muscular attachments and its periosteum. I therefore excised the whole of it.

10th June.—Healing nicely; drainage-tube acting freely.

17th June.—Healed entirely.

5th July.—Left for Maritzburg quite well. Owing to the loss of the muscular attachments to the injured scapula, that shoulder is pulled considerably forward, giving the patient a peculiar look.

The face, except the small cicatrices, is not disfigured at all. In December 1881, when on my way home, this man came on board the ship I was travelling in at Cape Town. He informed me he had got his discharge from the service, and was living with his family, who had emigrated to the Cape, and was employed in a shop in Cape Town as a salesman. He continued quite well and able for any duty; the twisted shoulder of course remained, but was not very noticeable.

CASE III.—Sergeant J. B., of the 94th regiment, was hit at Brunker's Spruit, and there ably treated. In passing down country he came under my care. The bullet, a conoidal one, hit over the left eyelid, then entered the globe of the eye, and, taking an oblique course, penetrated the nasal bones, then passed across the cheek, and lodged at the ramus of the jaw on the right side, from which it had been removed. I saw the projectile, and found it considerably misshapen, the base of it being levelled into three facet-shaped portions. There was a slight discharge from the nose remaining as the result of the injury to the nasal bones. Except the loss of the eye, there was no other disfigurement.

The case of Private H., wounded in three distinct places, is already recorded. One of the bullets entered the mouth through the lip, smashed the teeth, passed under the tongue, and lodged at the ramus of the jaw.

GUNSHOT INJURIES OF THE CHEST.

It is always a most important point for the field surgeon to ascertain whether a ball has entered the cavity of the thorax or not. Here experience will guide one more than anything else. The discovery of the bullet in the parietes, the absence or presence of a painful tract round the walls, the knowledge of the nature of the projectile fired by the enemy, these have all to be thought of. In well-marked cases the symptoms leave no doubt of the severity of the injury. In others it is usually considered the best practice to wait for the unfavourable symptoms to set in before forming a positive opinion. However, statistics must be made up, and a good many are shown as cases of penetration when such is an open question. In forming opinions afterwards, such records must be received for what they are worth. There is little need for me to detail fatal cases of this kind. That men may be but slightly injured by conoidal balls hitting the chest the following cases show:—

CASE I.—Private T. C., of the 92nd Highlanders, was wounded on the Majuba Hill. The bullet hit him in front, at the insertion of the eighth rib to the sternum, and made its exit in the side, in a direct line posteriorly in the same intercostal space, and about three inches from the vertebral column. The wound healed at once without suppuration or slough. With the exception of a slight feeling of dragging in the region, he suffers no other symptom. The projectile, in this case, must have been deflected from its direct course, and resembled the behaviour of a round bullet in its course.

CASE II.—No. 280, Private R., of the 58th regiment, was struck at the attack on Lang's Neck. The bullet entered two inches to the left of the ensiform cartilage, and made its exit at the eight rib on the same side, about four inches apart from wound of entrance. A large amount of pus was constantly coming away, accompanied by bubbles of air, and the outside air rushed in and out in a most unmistakable manner every time the wound was dressed. The pus was very profuse and foul. On the 10th April a drainage-tube was inserted, and in a fortnight the wound had been completely kept free of pus and had healed up, leaving the man in excellent health, only suffering on exertion from "a stitch in his injured side."

We are a great deal too frightened about the pleura. The day was when the same fear extended to the peritoneum. Should I ever have the opportunity in war, I shall not hesitate to operate and drain such cavities freely, in cases which, according to present experience, must end in death.

CASE III.—No. 832, Private E. G., of the 94th regiment, came under my care for a short time on his way down country. He was one of the garrison besieged in Lydenberg, in the Transvaal. While on guard there he was hit one inch to left of middle of sternum through a loophole in the fort. The bullet made its exit at the outer border of the scapula, one inch from its apex. Slight puriform expectoration ensued, but no hæmorrhage. He recovered completely.

GUNSHOT INJURIES OF THE ABDOMEN AND PELVIS.

As in cases of gunshot injuries of the chest, so with those of the abdomen it is not always easy to say where they have penetrated. A few hours, however, generally suffices to make the point certain. The following case may be taken as an example of an injury, commonly met with in savage warfare, but more rarely found when such an enemy as the Boers inflicted it, as in this instance:—

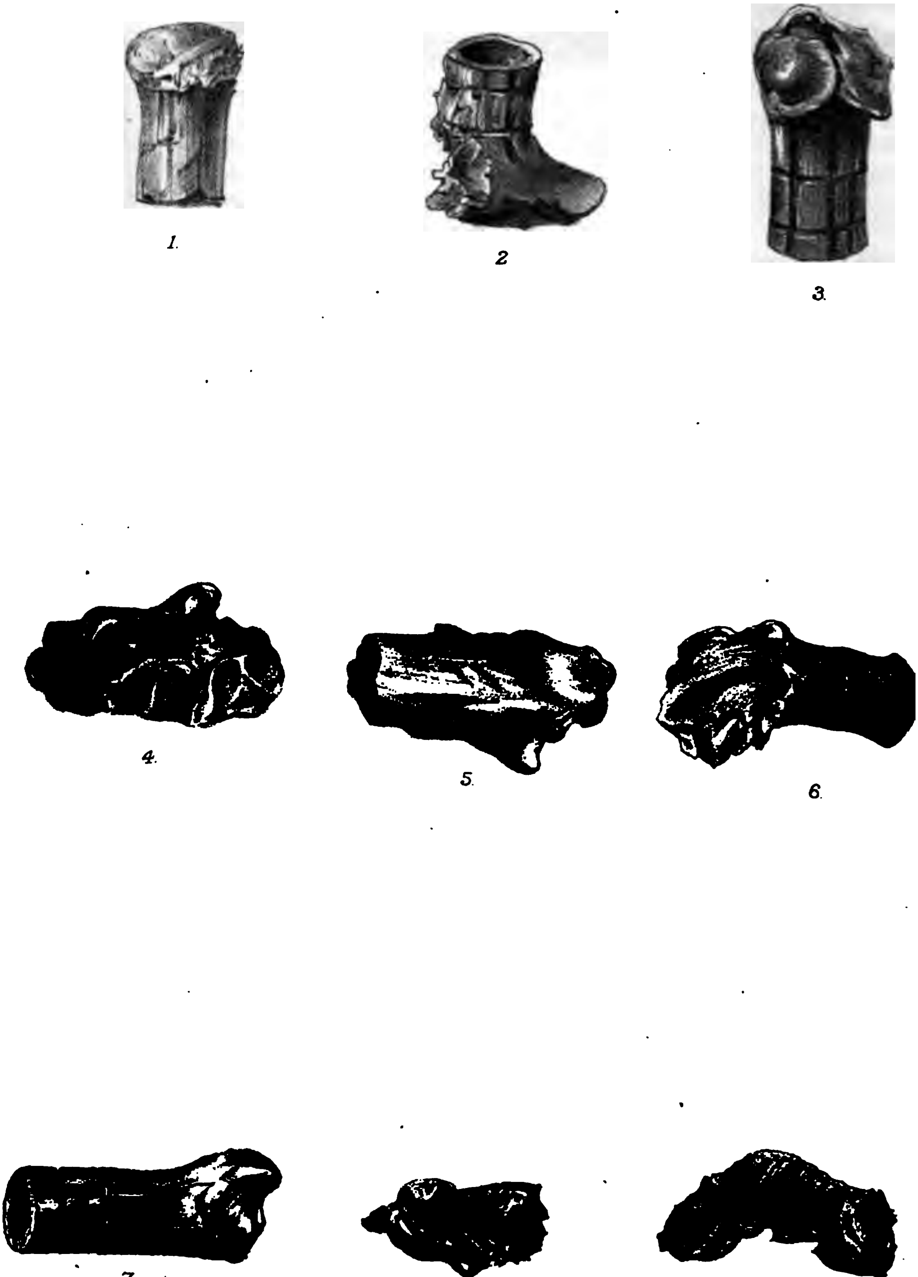
CASE I.—No. 1109, Private W. S., of the 58th regiment, was hit at the storming of Lang's Neck. The bullet entered two inches to the left side of the lower dorsal vertebra; from that point it passed subcutaneously across the whole of the back, injuring in its course the spinous processes, and making its exit one inch above the right great trochanter of the femur. The course taken measured twelve inches in length. Suppuration of course followed until all the bony *débris* had come away. When this took place the wound healed rapidly.

CASE II.—Private T., of the 58th regiment, was hit, at the Majuba Hill action, in the abdomen and foot. The latter is described in the section dealing with injuries of that part. The wound in the abdomen had healed when I saw him. The cicatrix of the bullet's entrance was found to be in the back, half an inch to the left of the spine of the middle lumbar vertebra, and that of exit in a direct line anteriorly three inches to right of umbilicus. The wound healed very rapidly, and, with the exception of slight paralysis and numbness in his left leg, causing it to drag a little, he suffered no inconvenience. The patient died from exhaustion following operation on his leg, as elsewhere detailed, and I made out the following facts at the post-mortem examination:—Interior to the cicatrix on the back, a canal into which the tip of the finger could be easily pushed, extended through the lumbar muscles, with a distinct puckering of the parietal peritoneum at this point. Anteriorly the omentum was pushed into the wall of the abdomen, and was firmly adherent along the track of the bullet as far as the integumentary cicatrix. The long strip of omentum so fixed was a most striking phenomenon. The crural nerve was injured, but even on most careful search no distinct cicatrix was made out in the intestines. The mitral valve of the heart was greatly diseased, being very incompetent. The valve closed so imperfectly that a very large opening always remained. Now there cannot be a doubt but that this case was one of penetration, the bullet traversing the whole cavity, and yet recovery would have followed, for had he not been also injured in the foot he would most certainly have returned to England in fair health. It is just one of those cases which makes the exception to the general rule, as to the fatality which commonly accompanies such injuries.

CASE III.—Staff-Sergeant P., one of the chief clerks in the divisional office, was accidentally shot at Newcastle, at very close range, on the 16th April 1881, by a comrade practising firing with a Colt's revolver. The bullet entered five inches to the left of the umbilicus and two and a half inches below the ribs, and lodged in the abdomen. The patient was able to walk a considerable way after the receipt of the injury. On arriving at hospital about fifteen minutes after the accident, there was no doubt as to the serious and fatal nature of the injury. Collapse, vomiting, frequent micturition, cold sweat, and rapid thready pulse, knees slightly drawn up, and inability to lie on affected side, with anxious expression of countenance, were present. He lived for thirty-two hours. After death, œdema was present in the scrotum; blood issued from his nostrils. The parietal and visceral peritoneum were injected, and flakes of yellow lymph were present between the coils of the intestines, and two penetrating wounds were found in the small intestines. At the inner side of the psoas muscle, behind the peritoneum, the bullet was found, base upwards, just touching the vertebral column. With the exception of a slight dent on the margin of the bullet's base, it was not altered in appearance.

The following case of suicide by stabbing, which occurred at Aldershot on the 11th October 1877, came under my immediate notice and care; and as it will serve to show one or two points of interest, I insert it here:—

CASE IV.—Farrier-Sergeant W., of the 1st Royal Dragoons, possessed the good conduct medal and had over twenty years' service. His comrades had noticed he had become more reserved than usual and talked about being hanged; but as he always drank freely, though never intoxicated, they paid no attention. On the above date, about noon, while alone in his barrack-room, he took a large regulation blunt cavalry sabre and made five plunges with it at his chest. Owing to the firmness of the walls and the bluntness of the weapon, he did not succeed in penetrating the cavity. He then, with perfect success, plunged it into the abdomen, just below the ensiform cartilage, and down as far as the pubes, and while in this position, he told me, "he twisted it about." When found by a comrade, he walked in this condition several hundred yards and up two flights of stairs, and when seen by me he was lying quietly on his back as if nothing had happened, talking quite naturally, and giving a full description, when questioned, about the whole affair. On examination I found he had fractured two of his ribs, and the skin over them was emphysematous. The wounds bled but little. When taken to hospital he kept his hand constantly over the pubes, as indicating the chief seat of pain. Urine passed frequently, scanty, and bilious. Body cold, pulse feeble. In the evening he began to spit up from his throat a quantity of dark glairy mucus. He was quite conscious, almost to the last, when he died on the 12th—next day—at 4 P.M. A coroner's inquest was held, and a verdict of unsound mind was given. I made a post-mortem examination, with the following result:—The sixth, seventh, and part of the eighth ribs were broken. No penetration of the chest cavity. The cartilages of the ribs were ossified. The abdominal wound was closed by recent lymph. The abdomen was filled with fetid gas. The stomach had been grazed, but not penetrated, and was filled with black grumous material. The small intestines were completely severed in four places, and a deep wound existed down the right side of the pelvis near the vessels, the bladder escaping. The whole of the intestinal coils were injected, and recent lymph filled up the interspaces and held them slightly together. Heart externally loaded with fat, 1 lb. 2 oz. in weight. Ascending aorta atheromatous and dilated.



1. 2 3. 4. 5. 6. 7. 8. 9.

Plate I.

The following cases illustrate injuries to the pelvis:—

CASE V.—No. 956, Private C. F., of the 58th regiment, was hit at Ulundi. A bullet from the enemy struck his ammunition pouch, which was attached to his waist-belt and held sixty rounds at the time. A hole was made in the pouch, and the cartridges fell through it on the ground. At the same time a bullet entered the highest point of the crest of the left ileum, and made its escape over the middle of Poupart's ligament on the same side, forming a long subcutaneous sinus. After the slough came away, the wound healed quickly.

CASE VI.—Private J. H., of the 58th regiment, was struck on the Majuba Hill. The bullet entered the gluteal region, about two inches from the great trochanter of the femur, and, penetrating the os innominatum, made its escape over the abdominal wall about midway between the anterior superior spinous process of the ileum and the navel. With the exception of suppuration as long as the bony *débris* was coming away, the wound healed up without a bad symptom.

CASE VII.—Private G. F., of the 3rd 60th regiment, was hit at the Ingogo when kneeling in the act of firing his rifle. The bullet struck the inner side of the raphe of the scrotum, went through the integument, and, without coming out, passed up through the right groin and pelvis, making its exit three inches from the sacrum, at upper third of gluteus muscle. Numerous pieces of bone came away from the ileum. The testes were uninjured, and the wounds healed in a little time perfectly.

DESCRIPTION OF PLATE I.

Illustrations of Cylindro-conoidal Bullets extracted from Soldiers wounded in the Transvaal War.

1. Bullet extracted from the shoulder, after penetrating the joint.
2. Bullet extracted from the ankle.
3. Bullet extracted from shoulder, after penetrating scapular processes.
4. and 5. Two views of the same bullet, extracted from the shoulder, after injuring the clavicle, scapular processes, and head of humerus.
6. Bullet extracted from the shoulder.
7. Bullet extracted from ankle.
8. Portion of bullet extracted from shoulder.
9. Irregular mass of bullet extracted from forearm.

(*To be continued.*)

ARTICLE V.—*Umbilical Cord round the Child's Neck as a Cause of Delayed Labour, and sometimes of Infantile Death.* By DR A. D. LEITH NAPIER, Dunbar.

(*Read before the Edinburgh Obstetrical Society,* 10*th January* 1883.)

DELAYED labour may be due to many factors; therefore it is not surprising that different opinions are held as to whether circumvolution of the neck by the funis is ever really a retarding agent to the completion of parturition or not. So far as I know, most writers on obstetrics assign little importance to the condition. They tell us that the normal length of the cord is so and so, that with the cord circumvoluting the neck there is usually increased length, and that even if this is not so, there is generally a free cord of ten or twelve inches, which is sufficient to permit a natural termination.

Theoretically we are confronted with these opinions; practically we find that most practitioners have experienced considerable and vexatious delays in many cases in which the aforementioned condition of parts was afterwards discovered to exist.

The umbilical cord may be from two to seventy inches long. The average length is about eighteen or twenty inches. The usual placental insertion is approximately central; in some it is close to the margin of the placenta, and in rare cases the insertion is membranous (velamentosa). The frequency of circumvolved funis is from one in seven to one in ten. This, however, includes different degrees of the condition. I know of no statistics bearing on the varieties of cord twistings. The causes are said to be (1) an elongated cord, (2) a small child of active habits, (3) a large quantity of liquor amnii and small child. To some extent these explanations are unsatisfactory. Considering that the activity of the child is really uterine and not fœtal, that in many cases the theoretical elongation of the funis does not exist, and that the third cause is as frequently absent as present, we must look for further solution. Whether the changes of uterine position in the latter months of pregnancy, and the final descent causing alteration of fœtal position, are to be esteemed of much consequence is also doubtful, seeing that coiling has been observed as early as the fourth and fifth months. Certain combinations of these alleged causes are probably necessary for its production.

The diagnosis is at times very easy, at others somewhat obscure. The signs as given in books are possibly correct; yet I question if the depression of the fundus with each pain, and the defined spot of tenderness (said to be due to a stretching of the peritoneum), the marked recession of the head after each pain, and the irregular hæmorrhages, are often conjunctively met with. In my experience placental adherence is more properly associated with the first two. The head retraction is most often due to resiliency of the vaginal walls, or perineal rigidity, or to general pelvic contraction. The irregular hæmorrhages cannot well depend on circumvolved cord, unless this should occasion partial placental detachment; and that such is oftentimes less easy of practical demonstration, than of theoretical suggestion, during the progress of a case, most will allow.

Head retraction, however, deserves more notice. That it really occurs practical obstetricians will admit; it is quite as reasonable to believe that the funis twisted round the neck may have something to do with it, as to assert that insufficient dilatation of soft parts, etc., are the only attributable causes of delay.

It is stated by some that retraction occurs most frequently in primipara. From the aforesaid causes it is highly probable that it should: yet I doubt if corded neck is as common in primiparæ as in multiparæ; and very often in the latter, with ample room, and, during the earlier periods of the cases, with seemingly perfectly powerful pains, this head retraction is noted. But the conditions in both classes of patients which seem to me to point most clearly to corded neck are—(1.) Head retraction, with fairly sufficient pains and pelvic accommodation. (2.) Gradual cessation or prolonged abeyance of the pains. (3.) Insufficient head flexion, followed by the mechanism described as super-rotation (Ueberdrehung), in which, say in a first presentation, at the outlet, the small fontanelle is found under the right (*not left*) pubic arch, and the face is turned towards the left thigh and backwards as in the second.

Head retraction with fairly good pains in a sufficiently-sized pelvis cannot always be explained as due to the causes mentioned as most common, viz., vaginal and perineal rigidity, as undue retraction is often observed without such rigidity; and the very usual assertion that the cord round the neck can interfere with the progress of labour only at or about the termination of the second stage is thus contradicted by ordinary experience.

Gradual cessation, or prolonged intervals of rest, with very weak second stage pains—in other words, uterine inertia—requires more consideration than has been generally given it.

In the majority of examples, in the absence of constitutional depravity, inertia depends on—(*a.*) Impairment of uterine musculo-nervous power, as from mental emotion, uterine, vesical, or rectal distention or compression, exemplified by excess of liquor amnii, retained urine or fæcal matter, intramural uterine, cystic, and rectal tumours, etc. (*b.*) Uterine thinning from disease or over-distention, as also from malignant cervical disease, etc. (*c.*) Cord circumvolution.

Leaving aside mechanical or "*a fronte*" hindrances, and regarding the simple, true form, which is a want of expulsive uterine power, there are but two great classes of inertia, with grades of each,—the first, in which there is prolonged abeyance of pains, exaggerated periods of quietude, of from twenty minutes to two hours; the second, in which, after more or less strong pains, there is a total stoppage of uterine action, or for many hours a torpidity or such slight pains that no appreciable expulsive influence is exerted.

In primiparæ in which this fœtal corded neck is found, a case is usually characterized either by a lazy first stage, and a second stage marked by good pains, but with intervals of considerable duration, so that the patients may fall asleep between each; *or* a lazy first stage, and for a time (*i.e.*, till the second stage has been well established) fairly satisfactory progress; afterwards a gradual falling off of any efficient pains. Although these may be frequent and cause much suffering, they seem to cease before reaching their acme, and result in nothing.

In multiparæ the inertia is commonly simply an interruption of the second stage for some hours; the membranes often rupture spontaneously too soon. Eventually one or a few strong pains come on and complete delivery, or there is a uterine lassitude without any resuscitation of parturient power. We may find the primiparous characteristics in multiparæ, and *vice versa.*

I am much more inclined to regard this inertia as an important diagnostic sign than the retraction with strong pains. The head retraction is a later symptom; and although it does retard labour earlier than just at the outlet, as we are taught to believe by different authors, it is from many considerations too unreliable a sign to attach great weight to *per se.*

Without discussing the other causes, which I have indicated roughly, but confining myself to the one under immediate concern, uterine inertia is known to depend on irregular contraction of the muscular fibres. These irregular contractions may be compared to the so-called "hour-glass contractions" of the third stage. The most common cause of the "hour-glass" condition is the now happily almost exploded practice of pulling away the placenta by traction on the cord, *i.e.*, exciting irregular action by irritation of uterine fibres opposite the site of placental insertion.

Uterine inertia in the second, and possibly in the later part of the first stage, may depend on irritation of this particular region by a somewhat similar pulling consequent on the neck being encircled by the cord. I admit that unless there is actual shortening of the cord the analogy cannot be well understood. But that there is really irregular, markedly irregular, contraction in such cases is without doubt. The precise explanation of its production is difficult. When we have a cord of 30 inches or more and but one entanglement, the irregularity may be met with; on the other hand, a cord of 18 inches long with two or three coils round the fœtus occasions an actual shortening, but the uterine action may not be more markedly irregular than in the case with the longer cord.

The theoretical objections to the traction irritation theory, that the condition rarely happens without an elongated cord, cannot be seriously entertained. Intra-uterine deaths occur from the cord being drawn tightly round the fœtal neck. It is admitted that most probably strangulation did not cause these deaths. Even apart from traction during labour, if such interruptions to the circulation are sufficient in some instances to occasion fœtal death, they might justly be deemed accountable for abnormal uterine irritation and impairment of function. It is right to remember, on the contrary, that excellent authority can be adduced to show that the pressure of a tightened cord during intra-uterine life is sometimes innocuous. From the structure of the cord we are debarred from highly estimating the nervous influences exerted. Still it is most probable that, either from traction irritation or from some interruption to the circulation, resulting in placental engorgement and thus causing a direct focus, we arrive at sympathetic uterine nerve irritation as the true explanation of this inertia accompanying the condition.

Insufficient head flexion is oftentimes associated with corded neck. Whether it depends on the above-mentioned insufficient expulsive power, or whether the axis of cephalic exit is also altered, is uncertain. From the fact that flexion may be less marked in roomy pelves than in those of small primiparæ, the want of expelling force would seem the more satisfactory explanation; but as cord twisting is combined with other presentations in a proportionately larger number of cases than with first cephalics, the question cannot be easily determined. I regret I have nothing beyond my personal observation to corroborate this last-made statement. It may be thought that the super-rotation movement has caused me to think so, but not so. My earlier cases may have been misleading, but latterly I have closely observed all with reference to this mechanism.

The diagnosis of circumvolved cord may be made in the lower third by digital examination. I have frequently done so in well-sized pelves. At the outlet clear evidence of corded neck is often seen before the actual birth of the head. While in many cases the birth of the head establishes the accuracy of our former ideas, I confess that more than once I have been mistaken.

The treatment naturally depends on the stage at which the diagnosis is established. If we knew that such existed previous to the advent of the second stage, we would, as a matter of course, employ sedative and tonic measures calculated to prepare the uterus for its extra work. But as the discovery is by no means infrequently made, at soonest, after the rupture of the membranes and partial dilatation of the os, we must marshal our resources differently. In a very large percentage of cases it is well to rupture the membranes artificially. If we have a suspicion of corded neck, the questions of act or delay arise. Action gives us more certain pains, and even with a partially dilated os the head advances more rapidly. If we act soon enough, a threatened tedious labour, especially in a multipara, will be rendered short and natural. To delay until the os is fully dilated, and then rupture, may give us, in some cases, still more satisfactory results, as, if no pains of sufficient degree supervene, the way is clearly opened for forceps. On the whole, with a soft dilatable os, artificial rupture will be found most expeditious. As a general rule, nearly 20 per cent. of primiparæ demand the employment of instruments; and allowing time for the parts to be sufficiently relaxed and distended is all that is needful. Further delay is at the expense of the maternal strength, if not injurious both to mother and child. With manual compression and forceps we incur far less risk to the child, should there be any probability of interference with the circulation.

I have found it necessary to free the head, after its birth, by cutting the funis before the shoulders were born. I have also, in a few cases, divided the cord in vagina, and thereafter delivered instrumentally with happy results. In these cases I could feel the cord coiled round the neck.

In head-arm, head-hand, and foot presentations, "cross births," and uterine tumours with head presenting, I have met with these entanglements. It is impossible to lay down definite rules for treating these, as each case must be considered according to its peculiar requirements. One of shoulder-and-hand I attended last October was delayed after version by the right leg, which was left in utero, being firmly encircled by the cord; the fœtus not only rode on the funis, but had it looped round the thigh. It was necessary to manœuvre the leg partially free before I could get it down. The length of the cord was about 20 inches. Although this case does not come under the heading of my paper, I mention it as illustrative of actual delay occasioned by the cord coiling. No advance of moment was made, which rendered it advisable to bring down the second leg when the hindrance was evident. Yet, as such cases do not apply generally to the matter under discussion, with this passing reference we leave them.

The concomitants, sequelæ, or results of cord entanglements may be placed under two classes,—those properly belonging to the circumvolution, and those due to the inertia or irregular uterine contraction induced by it.

The most important of the former is infantile death. Although many writers have denied that the unborn fœtus can be directly strangled by compression from the cord, Caspar, Hecker, Scanzoni, and others believe differently. Most affirm that death is from suffocation, and that, though admittedly uncommon, death may happen during parturition from the cord compressing the neck. Intra-uterine fœtal death from constriction of the neck is also recognised. Smellie records a case (*N. Syd. Soc.*, p. 114, vol. ii.), as also does his editor, M'Clintock (*ibid.*). Dr M'Clintock found the neck at its circumference reduced to nearly one-half. I fancy that these cases are less rare than is believed, and that most of us have had somewhat analogous experience.

It is a very common occurrence to have a child seemingly stillborn after cord coiling. Artificial respiration, the loss of a little blood, etc., usually obviates death; but if no aid was at hand, doubtless many children would die.

I do not now consider the effects of twistings or knots of the umbilical cord itself, as most are at one regarding the pathology of such. As in examples of knotted cords, so in circumvolved cords, infantile death may be caused by blood deterioration from excess of carbonic oxide due to imperfect aeration. Placental adherency of a slight degree is a somewhat rare concomitant of circumvolution. Irregular or modified "hour-glass" contraction may be also experienced. Presumably both are due to some uterine irritation from cord straining.

The uterine flaccidity or inertia accompanying or resulting from corded neck may be continued in the third stage and permit post-partum hæmorrhages. To be more precise, the continued inertia tends to bleeding. I have never seen much blood lost as a result of it, but have often seen indications of hæmorrhage.

Exaggerated after-pains are common sequelæ. These may be due to the irregular partial contractions, and the consequent formation of clots; or to slight metritic attacks, possibly caused by the undue expulsive force finally exerted, or from some small zones of inflammation left as the consequence of placental adhesions.

Neither my time nor opportunities for studying the medico-legal aspects of the subject permit me to dwell on these; but from one or two cases I have been connected with I have been much interested in them, and hope that some of the Fellows present may favour us with their views on these points.

ARTICLE VI.—*Notes on Typhoid Fever, suggested by a recent Epidemic at Newton Heath, Manchester.* By JAMES NIVEN, M.B., M.A. Cantab., Fellow of Queen's College, Cambridge, formerly Assistant Medical Officer to the Deptford Fever and Smallpox Hospitals, London; and ALEXANDER WALKER, M.D., etc.

THIS paper will consist, not of a systematic exposition of facts, but rather of jottings on points of interest or importance. Amongst these may be mentioned the great importance of recognising mild cases of typhoid, the occurrence of diphtheroid affections of the throat in typhoid and allied fevers, and the probability that scarlet fever is propagated in the same manner as typhoid fever. We may also mention a speculation on the temperature of typhoid fever, which for the present only faces, and does not overcome, difficulties.

1. *Notes on Diagnosis.*—It is usual to speak of the typhoid tongue, red at the tip and edges and furred in the centre. This and similar states one sees not infrequently; but the tongue is a very uncertain guide in recognising the disease, inasmuch as it may have almost any appearance.

We would call attention, however, to the fact that headache is an almost invariable initial symptom, and that in a large number of the cases we found its duration almost exactly a week; so much so, that in one case we ventured to predict when the headache would cease, and, fortunately, with accuracy. Headache of shorter duration is also a marked feature of typhus.

We have exhibited the pulse and temperature of a few of our cases in a table, in order to call attention to the fact that in a few cases the pulse is remarkably slow throughout, and that occasionally the pulse slows in the course of a case where it is for the most part quick. We may say, also, that in every case we found the pulse soft at an early period, in many evidently dicrotous. These are not new things, and the slow pulse occurs also in typhus, but not in the same degree. This slowness of the pulse was at one time regarded as a valuable diagnostic of typhoid, and so it may be; but it should be mentioned that we have seen the same thing (in Mr Niven) during an attack of typhlitis, and that, too, with high temperature. In many cases the pulse becomes markedly irregular towards the end of the attack, and in some intermittent.

It is sometimes necessary to determine rapidly whether we have to deal with typhus or typhoid. In children it may be quite impossible without some etiological clue. In well-marked attacks in adults, however, there is, generally speaking, this difference at first sight, at the end, say, of a few days from the commencement of illness. The expression in the typhus patient is heavy and stupid, his face probably somewhat dusky in hue, his pupils contracted, his breath foul. In typhoid at an early stage, unless there be some pre-existing condition, the breath is not foul, the pupils are dilated, the face, unless it has previously been so, is not dusky, and the expression, though it may be dull, is not stupid, but placid. In the typhus patient the breathing is quicker and heavier. The prostration is greater in typhus after a short interval from the commencement of illness.

We shall probably be assisted by the etiology of the case. The distinctions above given do not always hold. For example, of three patients in the Withington Union during this year, whom Dr Orchard was good enough to show to Mr Niven on several occasions, two had typhus and one typhoid. The two patients with typhus had a very copious and characteristic eruption, and both died. Their expression was that here described, but in the earlier part of their illness the pupils were dilated.

When Mr Niven first saw the third case, its nature was doubtful. His first impression was that it was typhoid; but having regard to the facts that the pupils were much contracted, the conjunctivæ injected, the breathing rapid and heavy, the countenance somewhat dusky, a distinct rash, though of indefinite character, on the wrists, and the abdomen mottled, he inclined in the end to the view that the case was typhus. Nevertheless the disease rapidly declared itself to be typhoid; the expression became placid, the pupils dilated, copious diarrhœa set in, and the initial rash disappeared. It should be added, that the patient's tonsils and uvula were covered with pultaceous material for some days, the bearing of which observation will appear afterwards.

It is often very difficult to distinguish between typhoid fever and acute tuberculosis, and we have seen the decisions of able physicians contradicted on the post-mortem table. Now, acute tuberculosis shows a special favour for the medulla oblongata, and Dr MacCombie, Medical Superintendent of the Deptford Fever and Smallpox Hospitals, mentioned to Mr Niven that difficulty of swallowing was a symptom he had observed in these cases. In the year 1880 four cases came into the hospital as typhoid fever, and three were correctly diagnosed, two of them by means of this symptom.

It seemed probable from one of these cases, and from the general history of such cases, that the tubercles form very rapidly towards the end of life. The onset is not unlike that of a case of typhoid fever. Some few days after the symptoms are fully established, difficulty of swallowing is liable to set in. It is a near precursor of dissolution, and indicates the invasion of the deglutition centre by tubercle, or at any rate the transition of inflammation to that centre. In the two cases mentioned it was remarkable how closely the symptoms corresponded. Yet in one there was an aggregation of tubercle on the medulla oblongata only; in the other the cerebral and spinal membranes, both lungs, the pleuræ, the liver surface, the spleen, the kidney surfaces, the uterine surface, and the Fallopian tubes were packed and crammed with tubercle. It is noticeable that in the second case there were crude tuberculous masses in the Fallopian tubes.

2. *The Importance of recognising Mild Cases of Typhoid.*—Every one knows that smallpox ranges in duration from a few days to months, counting from the appearance of the eruption to its complete disappearance. It is the same with scarlet fever, though the range in time is less. We should therefore, *prima facie*, expect the same to happen in any outbreak of typhoid fever. There is this difference, however, in typhoid fever, that, unlike the above diseases, it often creeps on gradually, and there may be nothing more to call attention to its presence than a little loss of appetite, a little languor, and, above all, elevation of temperature. (We recollect well a case seen by one of us, of a butcher's lad who felt a little out of sorts and was found to have a temperature of about 102°. There was nothing to point specially to any disease. He

was ordered to bed, and the diet restricted to liquids. After a day or two he got up and returned to work, nor was it possible to enforce the restricted diet. He came, however, to have his temperature taken, which remained high for a fortnight and then gradually declined; and there could be little doubt that he had a mild attack of typhoid, which was then in his neighbourhood.) In one of the houses where there is a very severe case of typhoid in a child, to which Dr Walker has just been called, we found a girl about 12 years old sitting up and looking fairly well, who, we were told, had been out of sorts for nearly three weeks, and had had some diarrhœa. Her temperature was 100°.

In another house we found a boy sitting in the same room with two sisters who had typhoid, one mildly, and the other severely, and this boy ailed apparently nothing. He had no anorexia and no thirst, yet his temperature was 101°.

These cases, therefore, unless sharply looked after, are liable entirely to evade recognition, and two great misfortunes result from this. In the first place, the patient, unless kept in bed and properly dieted, may gradually get much worse under the combined effects of work and of his disease, as has happened to more than one of our cases.

We shall mention only one case, that of L., seen first about 27th October. Typhoid was then suspected, and he was ordered to bed and told to take only liquid food. For three weeks he kept partly in bed, partly sitting up, but taking solid food. Nothing was heard of him till 17th November, when his sister was down with the same disease. He had then become very weak. His temperature was 103°, pulse 150. By neglect of rest and dieting the convalescence may be much protracted, if no worse consequence, such as perforation of the bowel, supervene.

In the second place, the stools are not disinfected in these unrecognised or undiagnosed cases, and are liable to spread the disease about them at the time; or they are carried off to some depôt, it may be in the neighbourhood of some milk farm or water supply, and pour their poison into the food-stuff of the population for years.

It has been too much the custom to close our eyes to this important factor in the continuance of typhoid among us, and to disguise to ourselves, under the names of simple continued fever, febricula, etc., cases which may become the ancestors of a powerful race of unmistakable typhoid cases.

We would point to the case of C., where the fever lasted only eight days, and where the sister has now contracted the disease; to the case of Charlotte B., where the first three cases were severe, but the fever lasted only eleven days in the fourth patient, Charlotte B.; also to the case of R. S., lasting twelve days, whose mother afterwards contracted the disease. The mother, in this case, was warned of the danger of catching the disease from R. S.; but to this subject we shall return.

We would refer those interested in this matter to a clinical lecture by Professor Jürgensen of Tübingen, translated by the New Sydenham Society. "He finds a number of cases of what in Germany is called typhus (abdominalis) levissimus occurring side by side with well-marked cases of typhoid. The cases present some peculiar features. Unlike ordinary cases of typhoid, their onset is as a rule somewhat sudden, commencing with a rigor or shivery feeling. This happened in 85 per cent. of his cases. The patient can date the commencement of his illness. The initial period, characterized by morning remissions, the temperature gradually rising from day to day, was almost entirely wanting in these cases. The temperature remained throughout as at the height of an ordinary case, and fell somewhat suddenly. This last fact he explains by the entirely altered conditions of the abdominal lesions. The temperature was quite high, sometimes very high, and what characterized the lightness of the attack was the shortness of its duration. The duration of fever was from four to sixteen days. According to Professor Jürgensen, there were rose spots in 46 per cent. of the cases, where fever had gone on the tenth day; where fever disappeared from the eleventh to the sixteenth day, in 75 per cent. Enlargement of the spleen was made out in nearly all the cases. Diarrhœa was present in 16 per cent. Recovery was slow, weakness remaining for some time. Errors in diet were found to be attended with relapses or great prolongation of illness."

3. *The Infectiousness of Typhoid Fever.*—We define the word infection to mean aerial conveyance of the virus; contagion, other modes of conveyance.

We are aware that it is a general opinion that typhoid fever is not infectious in the same sense as scarlet fever and smallpox, but that the disease is taken in exclusively by water, milk, etc., contaminated with typhoid stools, or, if conveyed aerially, arises from putrid matter. We think, however, that typhoid is probably infectious in the same sense as those diseases, and in this manner.

On referring to the case of the family B., it is to be noted that the diarrhœa of James, who was first attacked, began on 2nd November; also that the diarrhœa of W. B. and Colin B. began on 5th November. After an interval, therefore, of fifteen days from the first date and of twelve from the second, Charlotte B. was down with typhoid. Now these children slept in two beds indiscriminately. We have ourselves seen typhoid stools dried in their beds. The connexion suggested is that infection may take place by the ingestion of dried matter detached from the proper eruption of the disease.

It is not rare to see dried fæces adherent to the buttocks of typhoid patients, especially children. It was only children we examined for this. It is evident that a small portion of fæces dried and diffused aerially will pack the air thickly with typhoid matter.

It is especially among the poor and of them in certain families only, that we have to look for this mode of communication, although where there is excessive diarrhœa it might not be easy to prevent this aerial diffusion altogether. It is possible that to this cause may have been attributable the infection of the nurses at Homerton described in an able article by Dr Collie in the *British Medical Journal* of January 1880.

Dr Sharkey has also recorded cases apparently attributable to direct infection, and in his *Croonian Lectures* Dr Cayley practically endorses this mode of communication. Evidence that the disease was thus given was obtained in the following cases:—A sister of Mrs B. who died, Mrs S., J. M., Mrs C., K. C. and A. C., H. S., Mrs H., and Mrs B.

The evidence is, unfortunately, by no means complete, inasmuch as only probable evidence of the origin of the outbreak has yet been produced. But in these cases all known sources of danger were, so far as we know, guarded against. Imperfect as it is, the evidence we have obtained warrants us in insisting on the immediate cleansing of fæcal stains and removal of fæcal matter, so far as possible.

4. *The probability that Scarlet Fever is propagated by Alvine Discharges.*—Dr Collie, speaking of an outbreak at Clapham which Dr Murchison supposed to be typhoid fever, says that it was probably scarlet fever. We agree with Dr Collie.

In the *British Medical Journal* of 24th September 1881 a report is given of a discussion which took place in the section of public medicine on the etiology of enteric fever and diphtheria. In the course of that discussion Dr Alfred Carpenter of Croydon mentions that a very sharp epidemic of scarlet fever occurred among the children at a certain school, who played about a manhole connected with the head of a sewer. Seventy-five children in all took ill, and only those children exposed to the emanations of this sewer were attacked. There can be no possibility of doubt as to the source of the infection in this case. Other instances of the like nature are on record.

Mr Kenneth W. Millican, in a letter to the *British Medical Journal*, mentions a child, probably ill of scarlet fever, who had choleraic diarrhœa, and who speedily died. Now, we have seen a number of children ill of what was, not probably, but certainly, scarlet fever of a most marked kind, who had diarrhœa and died.

In some of these cases examined by Dr MacCombie and Mr Niven there was extensive catarrh of the stomach and bowels, with enlargement of Peyer's patches and of the mesenteric glands. In one case the aggregate enlargement of the mesenteric glands was greater than in any case of typhoid fever which Mr Niven has seen. In another case there was slight ulceration of one Peyer's patch. These morbid appearances were by no means confined to cases which had had diarrhœa.

The significance of these facts thus placed in juxtaposition is too obvious to be missed. Such cases occur in all severe outbreaks of scarlet fever, and they may occur sporadically. They are cases in which the virus, unable to escape, by reason of its amount or from individual peculiarities, from the skin, etc., pours itself forth by the bowel. The virus-loaded stools are disposed of in the usual manner, perhaps undisinfected, and, it may be possessing the same resisting power that the typhoid virus possesses, waft from the "head of a sewer" or otherwise an epidemic on the public. It is thus evident that scarlet fever is liable to the same mysterious wanderings underground, to the same unexpected sallies from drains, etc., to the same unlooked for and seemingly *de novo* visitations, which startle us in typhoid.

Finally, we see no reason for assuming that the stools of an ordinary case of scarlet fever are not liable to communicate the disease.

5. *On Throat Affections in Typhoid and allied Fevers.*—We have lately had our attention directed to the subject of diphtheritic throats, so-called drain throats, etc., and were rather surprised at the rapid recovery of the patients affected, and by the little harm inflicted on their health and strength by these forms of diphtheria.

About the middle of November 1882 Mr Niven's housekeeper was suddenly taken very ill with violent shivering and great depression of spirits. Her temperature was taken, and found to be 103°. Presently she complained of sore throat, and was sent to bed. On the second day her pulse was rapid, about 130, and weak; temp. 103°·5. White globe-shaped masses were seen on both tonsils, apparently emerging from the follicles. On the third day the tonsils were completely covered with pultaceous material; pulse rapid; temp. 103°. On the fourth day the tonsils were in the same state, but the temperature was 100°; the pulse was slower, and she felt much better. On the fifth day she felt pretty well; temp. normal; pulse about 100. The pultaceous material had completely left the tonsils, which presented a somewhat raw aspect. On the eighth day she returned to work. From the beginning she had no difficulty in swallowing liquids, and there was never any enlargement of the cervical or submental glands.

About a year ago Dr Orchard, medical officer of the Withington Union, had an outbreak of a similar nature. It will be sufficient, as to the symptoms and course of the cases, to say that in their sudden onset with shivering, during their continuance, and in their rapid decline with almost no loss of strength, they corresponded closely to the case just given. There were some twenty inmates of the union laid up one after another. Dr Orchard was naturally in some doubt as to the nature of the cases, from their successive and apparently contagious occurrence. He therefore consulted a medical friend, who examined the cases with him. They came to the conclusion that they were a form of follicular tonsillitis. It was difficult, in that outbreak, to say whether the contagion was obtained from a common source or whether it was passed from one to the other, but the latter is the more probable view.

We are informed by our friend Dr Laing, of Rochdale Road, Manchester, that a patient of his, a lady, contracted what to him was indistinguishable from diphtheritic throat. Some days after the lady's servant contracted the same disease. There was in the servant's case the same sudden onset, the white patches overspreading the tonsils, and the same rapid recovery that have already been recorded in Mr Niven's case. It should be mentioned that this patient had hæmorrhage from the tonsils for two or three days. There was no enlargement of the cervical or submental glands. She was sent into the Monsall Fever Hospital, and two days after her employers received a note to come and remove her, as she was now quite well. The duration of this case was about a week. The lady progressed similarly. It is necessary to add that some time back Dr Laing had two other cases with similar symptoms and duration, from one of which a cast of the uvula came away, while the other had a feeling of numbness and heaviness of the lower limbs for some time after. Nevertheless the total difference between the onset, course, and termination of the other cases from those of (shall we say) the usual form of diphtheria, the absence of that weakness which follows diphtheria, the non-enlargement of the cervical glands, and the high temperature, all induce us, for the present at least, to say that there is a form of diphtheroid follicular tonsillitis, probably infectious, quite distinct from diphtheria proper. This ground we propose to hold till such a bridge of intermediate forms has been built as may serve to connect the two diseases. On the other hand, the following observations may cast light on these cases.

Eleven years ago Dr Walker was in the midst of a very malignant epidemic of scarlet fever at Whaley Bridge, near Manchester; but what struck him as the most remarkable feature of that outbreak was that, preceding the unmistakable scarlet fever cases, and shading into them, were numerous cases of diphtheroid sore throat, with no skin eruption or desquamation, who *all* recovered after an illness of short duration. This he has frequently insisted on to his friends as a remarkable occurrence. At first, indeed, he looked on the cases as diphtheria.

Permit us to say, it is not difficult to confound scarlet fever and diphtheria, or rather, to look on that as diphtheria which is really scarlet fever. There is usually this difference, that in scarlet fever, in such cases, the onset is sudden, and there is not infrequently vomiting; in diphtheria, we are told by those who profess to be acquainted with the disease, the onset is insidious, and is attended with great loss of strength, heart weakness, etc., and the temperature is not high.

Now, it is to be remembered that in many cases of scarlet fever there is no rash, both in mild cases and in others not necessarily mild, where the disease discharges itself on the throat or on the throat and bowels; and the throat itself is in many cases indistinguishable from the diphtheritic throat. The distinctness, as regards the vivid redness of the throat, etc., in scarlet fever is of little practical value; or rather, the absence of this appearance by no means negatives scarlet fever.

Diphtheria is, so far as our experience extends, in adults, a rare disease; but the whole subject of diphtheria is involved in the utmost obscurity. In smallpox, also, the tonsils sometimes become diphtheritic (*i.e.*, covered with a tenacious continuous sheet of pultaceous material). These patients, so far as we have seen, die, and you find the tonsils completely disintegrated. The pharynx is also much pitted and ulcerated. The lymphatic glands enlarged are those at the angle of the jaw, and also the whole cervical chain, but during life the infiltration of the superficial tissues conceals this.

(To be continued.)

ARTICLE VII.—*On the Use of Chian Turpentine in Cases of Uterine Carcinoma.* By ANDREW S. CURRIE, M.D., M.R.C.S. Eng., Lydney, Gloucestershire.

(Read before the Edinburgh Obstetrical Society, 24th February 1883.)

WHEN Mr Clay of Birmingham drew attention to the use of Chian turpentine in cases of cancer, I happened to have under my care a lady who was suffering from duodenal cancer. My late friend, Dr Evans of Gloucester, saw this patient in consultation with me, and confirmed the diagnosis. Every remedy had been tried for the relief of the pain, which was at times most distressing to the patient and her friends. She was intolerant of chloral, and opium in full doses only afforded partial and temporary relief.

Although the case was a hopeless one, I resolved to try the effect of the new remedy; and the patient agreed to take it regularly, though, as she remarked, nothing could do her any permanent good. I was sceptical myself as to the virtues of the turpentine, and it was administered chiefly as an experiment after everything else had failed. I was, however, pleased to find that the relief from pain was speedy and decided; and the patient insisted that, had the medicine been employed sooner, her life might have been saved.

My theory was that the drug acted as a stimulant carminative, and that the cessation of pain was due to the relief of intestinal distension, for the abdomen, which had previously been almost tympanitic, became soft and pliant. The course of the cancer was unaffected, the patient dying in the course of two or three months.

I determined to give the turpentine a trial in any cases of uterine cancer that might present themselves, where the progress of the malady can be gauged with some degree of accuracy. The Forest of Dean is a very cancerous district, and cases of all varieties are constantly occurring. I have employed the drug in several cases of cancer of the uterus. In one patient the results were absolutely negative, but I do not think she persevered with the treatment, for, as a general rule, where it has been faithfully followed out it has afforded marked relief from pain. In no case, I regret to say, has it appeared to arrest, much less to cure, the disease.

The following case may, I think, be considered interesting, and in many respects it may be regarded as a proof case:—

Mrs S., æt. 45, a multipara, had had a good menstrual history. Labours had always been easy and natural. Both parents were (and still are) alive, and had enjoyed fairly good health. There was no history of heredity, either as regards cancer or tubercle.

I was first consulted for this illness in April 1881, and, without going into minute details, its history was as follows:—For eight or nine months menstruation had been becoming irregular and occasionally painful and excessive, but Mrs S. attributed her symptoms to change of life. In fact, she was led to consult me chiefly on account of gastric troubles. On making an examination I found well-marked cervical carcinoma; the cervix was of almost cartilaginous hardness, the os patulous and eroded, and there was well-marked fœtor. Hoping that the disease might possibly be limited to the portio cervicalis, I sent Mrs S. to Gloucester Infirmary, and wrote to my friend Mr Waddy, asking him whether he thought it possible or advisable to remove the cancerous mass. The patient went to Gloucester in the end of May. At that time the pain had become very severe; no sleep could be obtained at night, except from the use of nepenthe in rather large doses; there was considerable cachexy, and there was commencing emaciation.

Mr Waddy did not think an operation advisable, but he began the exhibition of Chian turpentine. The patient returned to her home in the beginning of July, and there was then little or no improvement. I strongly urged upon her the advisability of her continuing the use of the turpentine. She did so faithfully, and the relief afforded was very remarkable. Opiates were now seldom or never resorted to. The woman lost her haggard look to a great extent, and her appetite and general health improved marvellously. A day or two before Christmas she called on me to say how well she was: there had been no bleeding for a long time, there was little or no pain, and she asserted that the pills were curing her. I had not seen her at her home for four months.

On the 5th January 1882 I was summoned to Mrs S. in great haste on account of severe hæmorrhage. The patient and her friends were greatly distressed and disappointed, and I could hold out no hope to them, for I found on examination that the cancerous disease had been making steady progress, and that the vagina was extensively invaded. By the end of January the cancer had ulcerated into the urethra and rectum, and the patient died in a most pitiable condition in the beginning of February.

Pain being generally slight or entirely absent when cancer is limited to the cervix, and the development of marked cachexy being, as a rule, late in the progress of the disease, it would be rash to assume from the absence of these symptoms that the remedy employed produced these results; but in this particular case pain was a prominent, and, indeed, an urgent symptom prior to the use of Chian turpentine, and, probably in consequence of the pain, the woman had a worn, cachectic look. I therefore think that the improvement under the use of the turpentine was a consequence and not a mere coincidence, an instance of *post hoc et ergo propter hoc.* There was obviously no arrest of the disease. It had been making steady though insidious progress, and the improvement in her looks owing to the relief from constant wearing pain had deluded the patient and her friends into the belief that she was recovering.

In what way Chian turpentine affords relief I cannot pretend even to surmise. That too much has been claimed for it as a curative agent I fully believe, but that it is useful in some cases of cancer up to a certain point I have not the slightest doubt. So far as my small experience goes, it is useful merely as an anodyne; and even if its utility extends no farther than this, we should value it highly, for nothing can be more unsatisfactory than having to depend for the relief of pain on ever-increasing doses of opiates.

One point in regard to the mode of administration is of considerable practical importance. In the form of pill, Chian turpentine is not very easy of solution, and in many cases in which the drug has been reported to be positively inert this fact may help to account for the negative results. A medical friend of my own in this district found an undigested mass of these pills in the intestinal canal in the course of an autopsy. On this account, and also because there are many persons who are unable to swallow two large pills every four hours, I think that the essence, made by dissolving the drug in ether, is likely to prove a more desirable and more effective preparation.

ARTICLE VIII.—*On a New Form of Respirator for Continuous Inhalation.* By J. GRAHAM BROWN, M.D., F.R.C.P.E.

THE patterns of respirators suitable for continuous inhalation are very numerous, and among them it is not difficult to find several varieties which to a large extent fulfil one purpose, viz., the impregnation of the inspired air with whatever volatile medicament has been used to charge the instrument. None, however, so far as I am aware, perform the useful office which a simple "comforter" fastened across the mouth does—that of warming the air which is drawn through it into the lungs, the outgoing air warming the fabric to such an extent as to elevate the temperature of the ingoing air as it passes through the meshes of the material. It has always seemed to me that a respirator for permanent use ought to fulfil this purpose as well as the other, and so provide not merely a medicated atmosphere, but one which is at the same time agreeably warm—a very important matter in cases of phthisis. No doubt, in the less complicated forms of respirator, such as those recommended by Roberts, Saundby, and Burney Yeo, where the expired as well as the inspired air traverses the sponge, a certain amount of warming does take place; but with this arrangement there is necessarily combined a certain and considerable disadvantage in that the expired air drives much of the vapour from the sponge away from the patient. It is very desirable that, except when the inspiration is drawn through the sponge, the latter should lie in what is practically a closed box, and the volatile vapour thus allowed to accumulate until it is drawn into the chest by the next inspiration. The respirator devised by Dr Mackenzie allows of this by a valvular arrangement, the expired air passing out through two openings at the side guarded by valves opening outwards, while the inspiration is drawn through the sponge and through an orifice covered by a valve opening inwards. In this way, however, the warmth of the air leaving the chest is almost entirely lost so far as the sponge is concerned.

To utilize the warm air expired so as to raise the temperature of the sponge, while at the same time it should not pass through it, seemed to me so important an indication that I have designed several forms of oro-nasal respirator with this object in view, sometimes making the expired air pass through a spiral tube enclosing the sponge in its coil, at other times following with some modification the design given here. I will, however, at present only describe one of these, which appears to me, on the whole, to be the most useful.[1]

The shape of the instrument is very much that of other oro-nasal respirators, fitting tightly over nose and mouth. The portion of the respirator farthest from the mouth has the form of a circular box, which is divided by an inner ring of metal into two compartments, which, when the lid or cap is in position (it has been removed in the accompanying diagram), are completely disconnected the one from the other. The inner circular compartment holds a sponge charged with the substance to be inhaled when the instrument is in use, and through it the inspired air alone passes. The air is drawn through the perforations in the centre of the cap, traverses the sponge, and enters the main cavity of the respirator through the circular orifice which is seen in the centre of the floor of the middle compartment. In order to prevent the regurgitation of air into this central compartment during expiration, there is placed over this orifice a valve opening inwards, which is not shown in the drawing, as it lies on the side nearest to the patient. Encircling this lies an outer annular compartment, which is solely concerned with the expired air. The air enters it through two openings, one on either side, which in the accompanying drawing are almost hidden by two sloping partitions. On the lid or cap will be seen two corresponding orifices, each covered by a valve opening outwards. When this lid is properly fitted on, these two sets of openings nearly correspond; but the partitions already mentioned so divide the compartment as to make the stream of out-going air on either side course half way round before it can escape, so that the air entering by the right hand inner orifice escapes by the left hand outer orifice, and *vice versa.* The two outside valves prevent air from entering during inspiration. By these mechanical arrangements the inner compartment which holds the sponge saturated with the drug to be inhaled is only traversed by air during the act of inspiration. Its temperature is elevated by the stream of hot air by which it is surrounded during expiration, and thus not only is the air before entering the air-passages warmed as it passes through the sponge, but the substance to be inhaled is thereby rendered more volatile, and therefore better fitted for the purpose for which it is intended.

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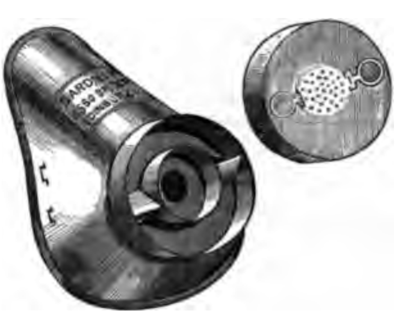
[1] These respirators may be obtained from Mr Gardner, 45 South Bridge, Edinburgh.



It is hoped that in this instrument the main conditions of a respirator for continuous inhalation are fulfilled. So far as I have had the opportunity of observing its action clinically, it has proved very satisfactory.

ARTICLE IX.—*The Examination of Deaf-Mutes.* By DR KIRK DUNCANSON, Lecturer on Diseases of the Ear, School of Medicine, Edinburgh.

(*Continued from page* 703.)

No.	Name and Birthplace.	Age.	Cause.		Condition			Hearing Power.		Family History and General Observations.
			Con-genital.	Acquired.	Of the Drumhead, E.A.M., and Auricle, etc.	Of the Nose.	Of the Pharynx.	Bone Conduction.	Aerial Conduction.	
52.	E. D., Glasgow.	13	Cong.		Plug of cerumen in R. E.A.M.; not so much in L. M.Ts. dull, deep, opaque.		Catarrh.	Vib. T.-F. felt from teeth and bones of head in stomach, not in ears.	Heard a loud shout in both ears.	Two sisters and one brother deaf-mutes.
53.	J. D. A., Edinburgh.	14		From measles.	R.M.T. deep, dull, opaque, small. L. E.A.M. laminated, epithelial plug difficult to remove. M.T. as in R.	Catarrh.	Catarrh.	Hears vib. T.-F. from bones of head in both.	Hears vib. T.-F. close in front of both. Did not hear voice.	Has a grand-aunt a deaf-mute. Strumous glands under lower jaw.
54.	J. W., Ross-shire.	12		Scarlatina at 1 year.	Large plug of wax in R.; less in L. M.Ts. very normal-looking.			Hears vib. T.-F. best in L. from bones and teeth.	Hears vib. T.-F. best in front of L. Voice low note shouted in L. best, heard in both.	Has one brother deaf-mute.
55.	F. C., Inverness.	12	Cong.		Normal markings of M.T. Shrapnell's pouches full.			Vib. T.-F. heard best from teeth.	Hears vib. T.-F. and W. in front, in L. best. Voice in L. alone, high, medium, and low note.	Sister of No. 11. Father and mother, one sister, and one uncle deaf-mutes.
56.	S. C., Forfarshire.	11	Cong.		Dried-up otorrhœal discharge on both M.Ts. Healed-up cicatrices.			Hears vib. T.-F. from bones best in R., best of all from R. mast. W. from R. mast.	Hears vib. T.-F. in front, best in R. Hears high and low notes best in R.	Is learning articulation. Has not a very good voice.
57.	B. B., Shetland.	14	Cong.		M.Ts. pretty normal-looking. Shrapnell's pouches full.			Hears vib. T.-F. best from teeth in R.	Hears vib. T.-F. in front, best in R. Hears high note in R.	Two sisters deaf-mutes.
58.	I. H., Haddington-shire.	11	Cong.		M.Ts. very normal-looking. Shrapnell's pouches full	Catarrh.	Catarrh.	Hears vib. T.-F. best in R.	Hears vib. T.-F. in front of both. Clear, high note of voice in both, best in R.	One brother deaf-mute.
59.	J. P., Durham.	11		Fr. "disease" in her 4th year.	Hard plug of wax in R.; M.Ts. deep, stiff. Shrapnell's pouches full.			W. and vib. T.-F. best heard in R. from teeth.	Vib. T.-F. heard in front of both, but not so well as from teeth. Hears voice well in both, but much the best in R.	Internal strabismus of R.

60.	E. L., Fifeshire.	9		Fr. "disease" in her 2nd yr.	M.T's deep and dull, but moist and normal-looking. Shrapnell's pouches full.	Catarrh of naso-pharynx.	Both tonsils large; R. most so.	W. and vib. T.-F. best heard in R.	Vib. T.-F. best heard in front of R. Voice high note in R.	
61.	M. B., Shetland.	9	Cong.		M.Ts. much driven in, vascular. Ceruminous layer over R.			Hears vib. T.-F. best in R.	Hears vib. T.-F. in front. Voice high and low notes best in R.	Two sisters deaf-mutes, No. 57.
62.	G. W., Stirlingshire.	10		Fr. "disease" in her 3rd year.	M.Ts. larger than many of the previous girls. Normal markings. Dry and non-vibratile.			Hears W. and vib. T.-F. well from mast. in R.	Hears vib. T.-F. well in front of R. Hears high and low note best in R.	
63.	M. R., Ayrshire.	13		From "fits" when 18 months old.	M.Ts. deep, dull, and thickened in both.		Narrow buccal and pharyngeal cavity.	Hears vib. T.-F. best in L.	Hears vib. T.-F. and low note of voice best in L.	
64.	E. D., Fifeshire.	14	Cong.		M.Ts. normal, opaque. Manubrium prominent. Catarrh of tymp.		Catarrh. Tonsils enlarged.	Hears vib. T.-F. in both.	Hears vib. T.-F. and voice high and low note equally in both.	One brother and a cousin deaf-mutes.
65.	A. G., Edinburgh.	13	Cong.		R.M.T. covered by a dry, black pellicle. Ulcer beneath on sup. post. segment. M.T. cicatricial. L. otorrhœa. Ulcer on sup. ant. segment, perforation.			Hears vib. T.-F. in both.	Hears vib. T.-F. Ut_3; causes her to shudder in front of R. Voice high note in R. High and low note in L.	
66.	C. M., Stirling.	9		Fr. "teething" at 10 months.	Wax. in L. M.Ts. much driven in. Bones prominent. Catarrh of tymp.	Nose flat.		Hears vib. T.-F. best in L.	Hears vib. T.-F. and voice high and low note best in L.	
67.	A. S., Ayr.	11	Cong.		M.Ts. deep, opaque, tense. Shrapnell's pouches full. White, fibrous infiltration.			W. and vib. T.-F. not heard in R.; a little in L.	Vib. T.-F. best heard in front of L. Voice low note in L. High note better in R.	
68.	M. J. P., Leith.	8	Cong.		M.Ts. dull, white, opaque, normal markings, moist, flat.		Catarrh.	Hears W. and small, pocket vib. T.-F., C, well from bones.	W. $\frac{30}{30}$ 4 ins. in front of ears; fully that in R. Hears voice very well. Repeats a, e, i, o, u and simple words very well, such as "apple," "pear," "orange," etc.	Father, mother, and three brothers are deaf-mutes. One sister, the first child, hears and speaks quite well. This is a sharp, active child, fourth of family, very clever and quick at sign language, although just commencing school. She has had no opportunity of speaking at home.
69.	E. M., Lanarkshire.	8	Cong.		M.Ts. deep, dull, opaque, entire; bones prominent.			Hears none of the tests.	Hears none of the tests.	The second child of family, one sister older, and two brothers younger deaf-mutes—all the children are deaf-mutes. She is a dull girl.

EXAMINATION OF DEAF-MUTES.—*Continued.*

No.	Name and Birthplace.	Age.	Cause.		Condition			Hearing Power.		Family History and General Observations.
			Congenital.	Acquired.	Of the Drumhead, E.A.M., and Auricle, etc.	Of the Nose.	Of the Pharynx.	Bone Conduction.	Aerial Conduction.	
70.	E. G. H., Edinburgh.	8	Cong.		Wax in L. Meat. shallow. M.Ts. cupped, opaque.	Mucous membrane swollen.		Hears Politzer's hammer?	None of the tests heard.	The fourth and youngest child of family. Has tender eyes.
71.	M. A. C., Caithness-shire.	8½	Cong.		M.Ts. deep. dull, opaque, parchment-looking.			Politzer's hammer and vib. T.-F. Mi_3 heard in both from bones.	Vib. T.-F. Mi_3 heard slightly in front of both. Does not hear voice.	One sister older deaf-mute.
72.	J. S. S., Forfarshire.	9	Cong.		M.Ts. normal in size, white, opaque.			Hears Politzer and vib. T.-F. Mi_3 well from bones.	Hears voice when face is to the speaker.	Is an illegitimate child.
73.	M. B. S., Edinburgh.	8		From "disease" when 2 years old.	Wax in R.E.A.M. M.Ts. good. Shrapnell's pouches full.			Hears Politzer and vib. T.-F. better from bones than in front of ears.	Hears Politzer and vib. T.-F. Mi_3 in front of both. Does not hear voice.	Not totally deaf-mute. Said to be a very slow girl, and of dirty habits. Internal strabismus of left eye.
74.	C. S., Caithness-shire.	8		Fr. whooping-cough when 2 years old.	M.Ts. small, flat, surface irregular; bones towards inf. margin, and irregularly placed. In L. light spot from upper portion of manubrium. M.Ts. papery-looking, and tending to be convex externally.			Hears Politzer and vib. T.-F. from bones best in R.; better than in front of ears.	Hears vib. T.-F. Mi_3 and Politzer in front of ears. Hears voice high, medium, and low note. Repeats words with her hand on larynx, in front of mouth, etc.	
75.	M. C., Ayrshire.	8	Cong.		M.Ts. deep, dull, white, opaque.			Politzer and vib. T.-F. heard.	Hears Politzer and vib. T.-F. in front of both ears. Hears voice a, e, i, o, u, and repeats. "Hears loud noises, and can hear human voice when spoken loudly and directly."	Has fair hair with dark blue eyes. Blind in left eye; pupil irregular; iris paler blue than right; cataract. "Not totally deaf-mute."
76.	H. P. Y., Glasgow.	8	Cong.		M.Ts. small. Shrapnell's pouches full. Malleus pushed down, handle foreshortened.			Hears Politzer and vib. T.-F.	Hears vib. T.-F. and repeats note Mi_3, Ut_4, etc. Repeats notes of voice.	
77.	M. M., Dumbartonshire.	8	Cong.		M.Ts. dull, opaque, white, otherwise normal.			Hears Politzer and vib. T.-F.	Hears Politzer and vib. T.-F. in front of both, best in R. Hears vib. T.-F. Mi_3 12 ins. behind her in her R. Re-	The oldest living child of the family. A sharp girl; likes to speak, and is a "hearty laugher."

ARTICLE X.—*Statistics of Operations in Mr Joseph Bell's Wards from 1st November 1882 to 1st April 1883.* Reported by B. LANGLEY MILLS, M.R.C.S., M.B., C.M., House Surgeon.

	No.	Recovered.	Died.
Amputations.			
Thigh	5	3	2
One Double of Thigh and Foot	1	0	1
One Double Foot (Syme)	1	1	0
Foot (Syme)	4	4	0
Arm	2	2	0
Hand (partial)	2	2	0
Fingers	6	6	0
Thumb	1	1	0
Toe	1	1	0
Tumours.			
Scirrhus of Mamma	5	5	0
Cystic Tumour of Mamma	1	1	0
Nævus	2	2	0
Sebaceous Cyst of Head	1	1	0
Epithelioma of Tongue and Gums	1	0	1
Epithelioma of Lip	6	6	0
Paraffin Epithelioma of Scrotum	1	1	0
Fatty of Chest and Shoulder	3	3	0
Cyst of Neck and Chest Wall	3	3	0
Sarcoma of Testis	2	2	0
Cystic Sarcoma of Leg	1	1	0
Cystic Sarcoma of Groin	1	1	0
Exostosis of Great Toe	2	2	0
Keloid of Lip	1	1	0
Adenoma of Mamma	1	1	0
Glandular Tumour of Axilla	1	1	0
On Bones.			
Necrosis	15	15	0
Carionecrosis	2	2	0
On Muscles and Tendons.			
Tenotomy	5	5	0
Ganglion of Ankle	1	1	0
Mouth and Pharynx.			
Hare-Lip	3	3	0
Uvula Removed	1	1	0
Nose and Face.			
Plastic Operations on Face	3	3	0
„ „ on Nose	1	1	0
Stricture of Lachrymal Duct	1	1	0
Genito-Urinary Organs.			
Phymosis	4	4	0
Lithotomy	1	1	0
Hydrocele	6	6	0
Hydrocele Tapped and Injected	2	2	0
Spermatocele	2	2	0
Repairing Perinæum	1	1	0

Rectum.

	No.	Recovered.	Died.
External Piles	4	4	0
Internal Piles	4	4	0
Fistula in Ano	3	3	0
Fissure of Anus	1	1	0

Other Operations.

	No.	Recovered.	Died.
Strangulated Hernia	5	5	0
One Double Strangulated Femoral Hernia	1	0	1
Needles in Hand, Fingers, and Feet	10	10	0
Carbuncles	3	3	0
Tracheotomy	2	0	2
Stretching of Posterior Tibial Nerve	1	1	0

Summary of Operations.

	No.	Recovered.	Died.
Amputations	23	20	3
Tumours	32	31	1
On Bones	17	17	0
Muscles and Tendons	6	6	0
On Joints	4	4	0
Mouth and Pharynx	4	4	0
Nose and Face	4	4	0
Genito-Urinary Organs	16	16	0
Rectum	12	12	0
Various	21	18	3
Total	139	132	7

The mortality is under 5 per cent., but really one death only could be in any way connected with the operations performed. The three primary amputations suffered from multiple injuries, and died of shock, never having rallied from the accident. The two tracheotomies were not seen by Mr Bell in life, and were moribund on admission; while the old woman with tumour of tongue and gum hardly felt any inconvenience from the operation. The last, a case of double femoral hernia, was much exhausted on admission, and aged.

The three fatal cases after amputation were as follows:—The first was a crush of the right thigh, close up to the body, from an engine passing over it. He had also a double fracture of the left thigh. He was kept alive during the operation by ether given subcutaneously, but died about half an hour after.

In the second the right thigh and left foot were amputated for a railway injury. The patient never rallied, and died in twenty-six hours.

In the third the right thigh was amputated. The left foot was much crushed and cold, and the right hand much injured. He was with great difficulty got off the table alive, but did not rally, and died in thirty hours. No pulse could be felt at the wrist all the time.

One case of tracheotomy was done by one of the residents in the absence of Mr Bell's house-surgeon. It was done for a spasm of the glottis caused by a large nail being in the larynx. The child died in 16 hours.

The second case was done for croup, by Mr Mills the house-surgeon, but the mother would not consent till the child was practically moribund, and it died about ten minutes after the operation. The larynx and trachea were found to be full of false membrane.

In the fatal case after removal of an epithelioma of the tongue and gums, the patient, who was 69, became comatose the same evening, and died apparently of serous apoplexy.

The fatal case of strangulated hernia was in an old woman aged 74. She had a double omental hernia, with a small piece of bowel caught in each. On the right side the omentum was cut off. She gradually sank from exhaustion, and died in fifty-eight hours. A peculiar feature in the case was that during the whole time she survived she only passed 18 oz. of urine.

The following note, drawn up by Messrs Tanner and Douglas, clerks in out-patient department, is of importance, as showing the growth of that department in the surgical hospital, and the extent to which it is taken advantage of by the public:—

Résumé of the Work in the Out-patient Department of Mr Bell's Wards, for the 22 *weeks beginning* 23*rd Oct.* 1882 *and ending* 24*th March* 1883.

Number of Cases.—Number of new cases, 900; number of visits to Mr Bell, 1763; number of dressings in out-patient department, 2423.

Average Results.—These figures represent an average of new cases per week, 40·90; visits per week, 80·13; cases dressed per week, 110·14, or an average of new cases per diem, 6·81; visits per diem, 13·35; cases dressed per diem, 18·35; the average number of cases on receiving days (*i.e.*, Tuesdays and Thursdays) has been 20; on other days (excluding Sunday) 10. The average number of visits made by each patient has been nearly 2; strictly it is 1·95.

Abstract of the more frequent Cases.—The following have been the cases of most frequent occurrence at the out-patient cliniques. There have been of—ulcers of the leg (exclusive of gummata), 60 cases; abscesses in fingers and hand, 54; other abscesses (exclusive of venereal bubo), 56; gonorrhœa, 45; syphilis, 19; enlarged glands (non-venereal), 33; fracture of the ribs, 21; Colles' fracture, 15; other fractures, 37; flat-foot, 22; needles in hand or foot, 10; stricture, 10; deafness, 18; synovitis, 28; bursitis, 18; scalp-wounds, 17; curvature of the spine, 13; piles, 10; hernia, 18; hydrocele, 13; bites (horse 1, dog 2, women 2, cat 1), 6; necrosis, 14.

Interesting Cases seen during the Session.—The following interesting cases among the out-patients have been shown at the lectures or seen at the out-patient cliniques:—A case of hernia of the bladder (afterwards admitted); a case of abdominal aneurism in a man who had already undergone two operations for aneurism, one for femoral aneurism of one leg, and the other for popliteal aneurism of the other limb; a case of paraffin epithelioma (admitted); a case of enlarged gluteal bursa; a case of fracture of the sternum; a case of fibrous polypus; a case of ostitis of jaw; a case of old fracture of the cervical vertebræ and subsequent recovery; a case of hæmaturia from bleeding from kidney; a case of dislocation of a rib; a case of double inguinal hernia with double femoral hernia. There have been two cases of bites inflicted by women, and several of wounds of joints inflicted by human teeth, shown during the session.

Part Second.

REVIEWS.

The Relations of Mind and Brain. By HENRY CALDERWOOD, LL.D., Professor of Moral Philosophy, University of Edinburgh. London: Macmillan & Co.: 1879.

SECOND NOTICE.

IN his next chapter (VI.) Dr Calderwood takes an interesting and important retrospect of the ground already gone over. There are points in the summary with which we cannot agree; but this review threatens to reach such undue dimensions that we must withhold what we had written. There is a great risk of being tempted to theorize in studying the automico-physiological experiment of Dr Burdon Sanderson, although it seems favourable to our views, but we forbear. All the more, when we see how Professor Bain (who is on our side also) and Dr Calderwood proceed to compute the entire number of cells in the cerebrum, and whether or not they will suffice for both the acquisition and the retention of knowledge. Allowance is even made in the computation for some impressions being so evanescent as to admit of storing-room for subsequent impressions stronger and more permanent. Such speculations are surely too mechanical and quite beside the question. We cannot explain the mysterious contact of mind with matter. The connexion is *unthinkable*, and beyond our ken in all its aspects.

The author discusses in his next chapter (VII.) the subject of "Personal Experience as connected with Sensation," in his usual able manner. It has no special bearing, however, on the subject we are discussing.

Chapter VIII. deserves and will repay careful perusal. There are portions of it with which we cannot agree, but to consider them in detail would be only to re-traverse ground which we have already passed over repeatedly in the foregoing criticisms.

"Retentiveness of Acquisition—Memory" is the title of the next chapter (IX.). This subject of memory is one which must necessarily perplex those philosophers who cannot allow that the higher exhibitions of mental power are dependent on the physical organism. In saying this, however, we disclaim *materialism* or *somatism*, or whatever these terms express. We hold the absolute distinction betwixt soul and body. We only reiterate the opinion or belief already expressed, that in the present system of things brain is necessary for the manifestations of mind, for the intelligent acquisition of knowledge, and for the retention of it. Here is the way in which Dr Calderwood deals with the subject:—

"*There is a physical acquisition resulting in physical aptitudes.* There is no artistic attainment which does not illustrate this. In every such case there is a real attainment, a retentiveness of something acquired. The seat of the acquisition is partly in the nerve-system, partly in the muscular, and is definitely restricted to the portion of the organism concerned in the form of activity." The muscles employed increase in development and strength and aptitude. Dr Calderwood admits that there is also a degree of increase in *sensibility* as well as in the efficiency of the motor apparatus. "But," he adds, "the illustration of retentiveness supplied by the sensory apparatus is much more restricted, and, as I took occasion at an earlier stage (p. 55) to remark, such increased sensibility, acquired and retained, involves much more than sensibility. It really much more illustrates an acquisition by means of intellectual activity." Is there not here a virtual recognition of what we have been aiming at? You cannot draw a line betwixt the consciousness of sensation and the higher operations of intelligence. They differ only in degree, not in nature. The scent of a bean-field is remembered. In some minds, and these often the more highly endowed, it recalls a great deal more—the circumstances under which it was first perceived, the scenes of early days, old friendships, and a crowd of other associations. The same mind or soul which experienced the sensation is stirred in many lines of thought and sentiment. But our author says that such acquisitions as sensation affords are "acquisitions without choice and without any effort save what is common to all animal life from birth, in the reception of food, with the amount of sensory and motor activity involved in the search for it. But in the higher phase of activity now under consideration it is a new order of food which is sought, —food for a higher life,—and the conditions of acquisition and retention are changed."

We grant that the conditions of acquisition may often differ in the two cases, but not invariably, because the higher knowledge is sometimes without choice, and the lower acquisitions—that is to say, of sensation—are sometimes the result of voluntary search. We deny that the conditions of retention are changed. There seems to be no essential difference betwixt the retention or memory of sensations and the retention or memory of the higher exercises of the mind. The latter, if once matters of consciousness, may be recalled in accordance with what psychologists call "laws of memory,"—by simple or relative suggestion, by similarity or contrast. So may smells and sights and sounds, if they have previously been matters of consciousness.

One man whose faculties are specially strong in a certain line of thought will remember with comparative ease the knowledge which he has acquired in that direction; while another man who has no tendency towards such studies and attainments is unable or unwilling to pursue them, and therefore has a very limited store of them in his mind, and few associations enabling him to recall them if he wished to do so. These considerations raise a question which those who think with Dr Calderwood must find very perplexing. If the mind is independent of the vesicular structure of the cerebrum, how do we account for the infinite varieties of mental faculties and proclivities which men exhibit? What leads one mind to deal with questions of psychology, and to have real pleasure in so doing, when possibly it may be comparatively helpless in the ordinary affairs of life? How is it that another man, with a large cerebrum, who *ought*, if the sensori-motor arrangement really monopolizes the convolutions of gray substance, to show his power in bodily activity and muscular exertion, has, as we often see, no tendency towards outdoor sports, gymnastic exercises, and handicraft, but exhibits an utter inaptitude for such pursuits? These questions might be multiplied almost indefinitely. The phrenological system, which Dr Calderwood never mentions in the course of his elaborate book, may have some weak points, but it is certainly strong on the subject of memory. It recognises no separate organ of memory. Every faculty, intellectual or moral, has its own memory. The more amply developed and active, the more tenaciously will its acquisitions and experience be retained and recalled when needed. Large organs of *causality* and *comparison* meeting together must assert themselves, whether in peasant or peer, although the modes and occasions of that assertion may be very different, and the manifestations of their presence will inevitably be stored up and ready for use when occasions offer. A well-developed organ of *ideality* will in the same way make its existence known sooner or later, either in the tastes, in the language of the individual, or, it may be, in his power of invention, if he possesses an aptitude for practical activity, in handicraft or the arts. But the point we wish to emphasize is this—that the memory exhibited by the individual will mainly display itself in the sphere of those cerebral organs which are in his case exceptionally strong and predominant. Before passing from this matter, we ask, but only by the way, How happens it in the case of the lower animals—notably the dog and horse—if the sensori-motor system monopolizes their cerebrum, that they so often remember persons, localities, and events with manifest indications of associated sentiment, such as devoted attachment, courage, fear, self-sacrifice, throwing into abeyance for the time all their natural and habitual tendencies?

Do not all these considerations point to the conclusion that the soul or mind, the *ego*, both in man and beast, acts through a bodily organ, so that, as we can connect muscular action with certain organic structures, designated sensori-motor, in like manner we are warranted, justified, in connecting higher manifestations of the same *ego*—call it mind, or soul, or ψυχη—with other portions of the same nervous structure for which we have discovered no adequate function?

We have already adverted in an incidental manner to the difference of opinion betwixt Professor Bain and Dr Calderwood as to the sufficiency of storing-room in the gray matter of the cerebrum for mental acquisitions. Dr Calderwood, who finds other work in connexion with sensori-motor action, maintains that there is no adequate room; Professor Bain holds that there is. "Non nostrum tantas componere lites." We can say no more than that the question appears to be irrelevant, if it is supposed to have any bearing on the function of the cerebrum.

A very interesting and carefully written chapter (X.) follows, on the "Use of Speech." It is well worthy of the reader's attention, but we shall pass it over as not bearing very directly on our main topic of discussion.

The next chapter (XI.) is occupied with "Action and Reaction of Body and Mind," and is virtually a re-statement of views already brought before the reader in various aspects:—

"Organism accomplishes much without the aid of mind; intermediately, mind accomplishes, with the aid of the body, much for which organism itself is insufficient; and in advance of this, mind, by a reflective process, reaches a knowledge unattainable by sensory apparatus and the largest stores of nerve energy." There is something here, as it appears to us, like begging the question at issue.

"We are familiar with the fact that *a disturbed bodily condition is an effectual hindrance to the action of intelligence.*

"Though disorder of the digestive organs involves disturbance of brain, it does not therefore follow that the stomach can perform the functions of the brain." Certainly not. "And just so, though the disorder of brain involves disturbance of mental action, it does not follow that the brain can perform the functions of the mind." The statement of this proposition is surely very incorrect. The things compared have no correspondence with each other. Disturbance of the stomach, the organ of nutrition, affects the healthy action of the brain, a part of the organism. To suppose that the stomach in its healthy condition can perform the functions of the brain is *absurd;* but to suppose that disorder of the brain should involve disturbance of mental action is not only not absurd, but in the highest degree probable: otherwise what is the meaning of Dr Calderwood's long and elaborate argument with which we have been engaged in the preceding pages?

We may quote the concluding paragraph:—"These two facts stand indubitable: disturbance of bodily functions can retard intellectual action. Thought, with its attendant emotion, can lower or quicken the vitality of the physical organism. As correlated facts they are strongly confirmatory of the position that there are in human nature two forms of existence acting and reacting upon each other."

We need not say that we thoroughly agree with the author in this last position. The difference between us consists as to the function of the *cerebrum*. He holds—contrary, as we think, to the analogy of the sensori-motor system—that the mind or soul is outside of the brain, even in this world of sense; we hold that here and now the soul acts and manifests itself through the organism of the brain, although when that organism is dissolved into its chemical constituents the soul remains untrammelled and perfect, and suited for the new surroundings to which its Author may summon it. We hold by the Christian doctrines, and wish to show that the attainments of physiology and psychology are in harmony both with each other and with them.

Weariness, Sleep, and Unconsciousness are treated of at length in Chapter XII.

"There is no 'manual labour' which is not at every moment of its continuance 'real brain work,' as the preceding investigations have amply illustrated. The commonest work of the hands cannot be done without a draft upon the nerve energy supplied by the brain. All human labour is brain work, and all the work done by the lower animals in the service of man is also brain work." We know what is implied in these statements.

"To avoid needless complications, it is desirable to enumerate the forms of brain action which must be considered as generally attending on the more ordinary mental exercises. They may be briefly stated thus: (1.) Action of the special senses and of the special tactile sense; (2.) Action of the muscles concerned in the management of these senses, and specially of the organs of sight; (3.) Co-ordination of sensory and motor apparatus required for use of the senses; (4) Action of sensory centres consequent on use of the imagination (p. 273), in part a renewal of sensory impressions, or a movement of the sensory cells consequent upon stimulus which imagination supplies; (5.) Sensory and motor action consequent upon the stimulus coming from mental emotion, such as weeping, facial expression of sadness or sympathy." "With these facts before us we can reach some conclusions as to the weariness attending on mental activity."

"*First, there is large use of both sensory and motor apparatus in connexion with all the ordinary forms of intellectual activity.*" Dr Calderwood illustrates this in a very successful and happy manner by the experience of public speakers.

"*Second, all thought proceeds, to a large extent, by use of language,* *and thus seems to involve activity of the cells concerned with the acquisition and use of language and speech.*" This head is also illustrated with much ingenuity and accuracy of thought; and it is shown, we think, conclusively, that all the exercises already mentioned are sufficient to account for *some* of the weariness attendant on ordinary exercise of thought, especially if there be in addition a demand for dexterity of manipulation, as in writing, engraving, drawing, painting, or mechanical contrivance. We use the word *some*. Dr Calderwood thinks *all* the weariness is so explained.

" *Third, concentrated thought* makes a *severer demand on all the forms of brain action connected with ordinary thought, and so quickens and increases the exhaustion of nerve energy*." Dr Calderwood accounts for this by " the deliberate and well-sustained guard put upon the senses that they may not prove hindrances to us."

" As all nerve action involves weariness, with demand for nourishment and rest, we are naturally led to consider *the phenomena of sleep* as these are concerned with the relations of mind and brain."

" Sleep implies rest primarily and specially to the sensory and motor systems, and through these to the general muscular system." " Of the special senses, the sense of sight, the most restless and active of all during waking hours, has the fullest advantage from slumber."

The *phenomena of dreaming* constitute " a department of inquiry beset," as Dr Calderwood remarks, " with special difficulty, but it is of obvious importance as bearing on the general problem."

How are we to explain the phenomena of dreaming if " mental phenomena imply the action of a higher nature distinct from the body, though existing in closest union with it "? This is Dr Calderwood's mode of stating the case. Would it not bring it out more explicitly if we put it in this form: As the sensori-motor system is manifestly often imperfectly at rest during sleep, are not dreams just what we might expect when other portions of the gray matter of the brain are in an analogous condition of imperfect sleep? How does the high nature generate the strange and fantastic phenomena of dreaming, if it is so distinct from the organic structures? Sleep ought to be the time, surely, for *its* clearest, truest, and most real work. " Some have maintained that our dreams are all connected either with the period when we are sinking to rest or with the period when we begin to wake; but any extended observation of others in profound sleep will contradict such a view." We believe, however, that most persons who have seriously attended to the subject hold the opinion that dreams occur chiefly either at the commencement or near the close of sound sleep. This is more a question to be determined by individual consciousness than by the observation of others. Such observation is hardly possible without affecting the condition of the sleeper.

Various points, such as the following, are illustrated very instructively by the author, but they do not bear specially on the question at issue. We quote the headings, and advise our readers to study the illustrative observations for themselves.

"1. *While the senses are sealed in slumber, the imagination is often occupied with a representation of scenes and occurrences such as recognised by the senses.*

"2. *There is power of persistent determination and intelligent appreciation of previously formed purpose, influencing the sleeper from the beginning to the close of his slumbers.*

"3. *There are many examples of concentrated intellectual action during sleep.*"

We shall only hazard one remark upon these statements of admitted and well-known facts. They all indicate imperfect repose of mind, one or more faculties awake and active while the majority are at rest, the peculiar mental proclivities of the individual being at the same time apparent.

The subject of *unconsciousness* next claims attention. There is no progress made under this head in our author's argument, and little need be said in the way of criticism. Some good cases are given in illustration of somnambulism or sleep-walking. Dr Calderwood describes it neatly and concisely when he says, "In somnambulism there is actual performance of what is contemplated during the dreaming state. Is not this the difference between dreaming and somnambulism, that the dreamer appears in some measure to recognise that he is sleeping, whereas the somnambulist does not?" The subjects of *trance* and *mesmeric sleep* are referred to briefly at the end of the chapter.

We have now reached the subject of "Brain Disorders," which ought specially to test any theory as to the relations of mind and brain—Chapter XIII. pp. 362–410.

We are met at the very outset by the following sentence, which startles by its apparent inconsistency with all that has gone before. We rub our eyes, and feel that we must have been doing our author injustice by gross misrepresentation of his views:—"As it is admitted that the brain is the organ of mind,—*and this is expressly maintained by those who hold the distinct nature and higher functions of mind,*—all disorder or disease of brain must present facts of importance towards constructing a theory of the relations of mind and brain." We subscribe to this most cordially, but wonder how Dr Calderwood will clear his ground after so remarkable an admission.

Can anything be put more clearly than what follows? "No oculist would disregard the statement of a patient who mentioned that he often saw luminous appearances floating before him. No aurist would treat slightly the statement, made in consultation, that the patient experienced uneasiness and inability to understand what was said when words were spoken loudly. And, on precisely analogous grounds, the physician dealing with morbid conditions of brain must mark and classify evidence as to the feelings, dispositions, and thoughts of his patients which have a distinct value for his purpose, if only they are accurately interpreted."

Our author proceeds to consider the forms of brain disorder under three heads. When the weight of a human brain is below 30 ounces, there is feebleness of mind and feebleness of body. "Undeveloped brain implies an undeveloped physical condition; such a condition implies the impairment or loss of many of the appliances which contribute to intellectual development." "We come to the question, To what extent is imbecility accounted for by imperfect development of brain? At an early stage of this inquiry we have seen that neither is size of brain nor weight a sure test of brain power. Much depends on quality of the nerve-cells and convolutions of the gray matter. But it is beyond doubt that there is a limit beneath which there is imbecility. Below 30 ounces in weight or below 17 inches in circumference of cranium uniformly implies imbecility."

Attach as much influence as we may to a defective sensori-motor system, and amplify as much as is consistent with strict accuracy the results of painstaking instruction and judicious physical management of idiots, the great fact remains that their mental manifestations correspond very closely with characters of their brain.

The subject of insanity next comes to be treated of; and as it is often very difficult to explain such mental disorders by undoubted and conspicuous morbid appearances found after death in the brain, Dr Calderwood evidently regards this as a strong link in his chain of reasoning. We cannot afford space for discussing the subject in detail, because our review is already too long, but we shall content ourselves with a few general remarks.

The minute pathology of the brain can only be investigated in a small proportion of such cases, because many recover under treatment. But in fatal cases the morbid appearances are either so marked that no hesitation can exist regarding them, or, where the mental disorder has been of long standing, there will be indications of more or less chronic disease. In the comparatively rare cases of death at an early period from other maladies, the absence of morbid appearances is no proof that these did not exist in the form of hyperæmia in certain parts during life. This enables us to explain the great variety of symptoms which mental disorders exhibit. Some portions of the brain may be in a temporary morbid condition while others continue healthy. The intellect may continue clear, while the imagination, the emotions, the animal propensities are unduly active, whether the morbid changes be functional or organic, temporary or permanent. We are at a loss to conceive how, under the theory of Dr Calderwood, that the mind is outside of the brain, so to speak, the endless modifications of insanity can be accounted for. Of course, in the treatment of what are called mental diseases no sensible physician will forget that both mind and body require his careful attention, for they act and react upon one another, But surely Dr Calderwood does not suppose that disease begins in the mind. If so, he seems to beg the question at issue.

Our author attaches much importance to the admitted fact "that brain disease may exist to a large extent without experience of uneasiness or indications of mental restraint or aberration." We admit this so far as uneasiness can be trusted; but as to a hemisphere of the brain being destroyed without mental restraint, the statement is incredible. Few persons are competent to speak *ex cathedra* on such a point. In a case such as that of the late distinguished Sir William Hamilton, who, though paralytic on one side for some years, retained his exceptionally strong powers of reflection, we cannot doubt that the disease was confined to the basal ganglion and the sensori-motor tracts; but when told of established disease in one hemisphere unaccompanied by mental impairment, or that one hemisphere did the work of both, common sense revolts from such statements. We agree with Dr Crichton Browne's suggestive remark, "It is astonishing how little real thinking will suffice to carry a well-trained man through an average day or month of an average year."

Dr Calderwood remarks, and we cordially agree with him, "that all treatment of the insane includes a moral element as well as a physical." This is, we think, perfectly consistent with the views we advocate. If a portion of the cerebrum is unduly active,—say hyperæmic, if you will,—what is so fitted to give it rest as occupying the mind in different directions, so that other portions of the brain may be brought into action? How is this to be effected? By a combination of moral and physical treatment, by change of scene, by new surroundings, by strenuous employment of the sensori-motor system in locomotion, in out-door exercise, in handicrafts of various kinds. This is the plan adopted by all intelligent physicians, and it seems quite in accordance with our view as to the relations of mind and brain.

A few words on violent injuries to the brain. The well-known "American crowbar case" is given at large and commented on very fairly. To us it seems to confirm all our views in the most explicit and striking manner. Dr Harlow, who gives a history of the case, says, "The equilibrium or balance, so to speak, between his intellectual faculties and animal propensities seems to have been destroyed." "A child in his intellectual capacity and manifestations, he has the animal passions of a strong man. Previous to his injury (he survived it twelve years and a half), though untrained in the schools, he possessed a well-balanced mind, and was looked upon by those who knew him as a shrewd, sharp, business man, very energetic and persistent in executing all his plans of operation. In this regard his mind was radically changed, so decidedly that his friends and acquaintances said he was 'no longer Gage.'"

Dr Calderwood remarks, "A breach of the controlling power resulted from the injury to the frontal region; but there is evidence of comparatively little inroad on the intelligence proper." In this connexion it is desirable, also, to keep in view the fact that the activity of the intellectual powers has been associated with the *posterior region* in the brain. On this point Dr Bastian presents his testimony in the following form:—"Various reasons led me some years ago to the conclusion, which, however opposed it may be to generally received opinions, has since been strengthened by observations made independently in different directions and by different persons." The present writer may mention, in passing, that many years ago the late Professor Goodsir told him that he had come to the conviction that the hindhead has fully as much to do with intellectual work as the forehead, and that he felt that his own strength lay there. These may not be the precise words, but they convey his meaning. It is important to note, also, that Gall, Spurzheim, and Combe place the organ of *concentrativeness*, the power of close mental application, in that region of the brain.

Dr Calderwood frequently adverts to what he conceives to be a generally received opinion, that "the governing power belongs to the frontal region." We do not know how this impression has arisen. All this, however, about the occipital region is irrelevant to the case of Gage. The injury to the frontal portion of his cerebrum was quite in accordance with the mental impairment which he seems to have undergone.

Before leaving this part of the subject we may advert to a remark which our author makes in furtherance of his contention: "Intelligent self-control may avert insanity." This is a quite possible, but a rare experience. Everything, in our opinion, will depend on the cerebral region which happens to be in danger, and the regions which are acting healthily. Dr Maudsley says, "In the wise development of the control of the will over the thoughts and feelings there is a power in ourselves which makes strongly for sanity." Dr Calderwood, never losing sight for a moment of his ruling idea, adds, "Such wise development of the control of the will as is here commended belongs to the normal life of man whether he be educated or uneducated; but in saying this it is granted that there is a personal control superior to brain action, and which may keep ascendency in midst of the disturbing experiences of a disordered brain. This declaration, confirmed as it is by a large body of evidence, and brought into application by the physician in his treatment of sufferers, affords definite and very express testimony to the superiority of mind over brain."

We hold as strongly as our author does the superiority of mind over brain; but what we contend for is this, that some minds, be they essentially inferior or not, are restricted, hampered, cabined, so to speak, in their action by the inferiority or want of ordinary balance of the *cerebrum* with which the Creator hath, meanwhile, furnished them. Such people are usually placed at a great disadvantage for exercising wise control on the part of their will. A man of intellectual and cultivated mind may have warnings that he is overworking his brain, and may, instructed by the experience of others, have sufficient self-command to limit his studies in due time, and so avert insanity or a mental breakdown. A drunkard or a licentious person, in whom the animal propensities engross an undue proportion of his *cerebrum,* is in a more helpless and hopeless condition. The higher powers have from the beginning been relatively weak, so far as brain is concerned, and how can they be expected to take the command when ill-health and temporal misfortune come upon him? He is now virtually left a prey to his lower tendencies. His intellect may for a little be roused and quickened by the visit, for example, of an intelligent and sympathizing friend, but the intercourse is no sooner at an end than the animal propensities resume their sway.

The penultimate chapter (XIV.) is devoted to "The Higher Forms of Mental Activity."

After a few preliminary statements, the author says, "It is apparent that there are three departments of higher thought which are capable of being regarded as rigidly distinct, while they afford common tests of the power of human intelligence. If this last consideration be kept in view, it will be seen that we have a common field of testimony before us, even while we distinguish three departments of inquiry. Though some show an aptness for only one of these regions of thought, and special interest in it, all have some share in the thought that belongs to the three. There is no mind which does not experience an influence from the scientific, the moral, and the religious, or at least the speculative thought of the race."

1. "*The purely intellectual department of thought.*"

"Our problem is this: Can such ranges of thought be regarded as functions of nerve tissue, and explained under the laws of nerve action?"

"From examination of the lower orders of activity we have found that comparison,—recollection of the results of past comparisons,—inference, and volition are all characteristic of man, and cannot be accounted for under the laws of nerve energy. This being true, still less can the higher powers of intellectual activity be so explained, and the more obvious does it become that mind is a superior order of existence, performing work unapproachable under the laws of nerve action."

Of course, if Dr Calderwood has already proved what he believes he has done, the conclusions drawn in the last sentence must be admitted. We deny, however, that he has succeeded in his previous contention, and therefore cannot admit what he now affirms. Nay, more, believing that what he calls the lower orders of activity —comparison, recollection of the results of past comparisons, inference, and volition—are all referable to the vesicular substance of the brain, we are prepared to refer the higher manifestations of mental activity to the same source. We object to the phrase "laws of nerve action" as inaccurate, and therefore apt to mislead inquirers. Nerves are merely the conductors of force, sensory or motor. The better form of expression in this argument would be, "*vesicular structure, or gray matter of the cerebral convolutions.*"

A very able and suggestive passage follows (pp. 415–422), which cannot fail to interest the reader, and will, we think, illustrate the views we have been advocating on the "Relations of Mind and Brain." We quote a sentence from Dr Bastian, occurring in the passage referred to, which calls for a few remarks: "From these considerations it follows that we may have presented to us for examination two brains equal in size and weight, equal also, so far as can be ascertained, in the number and depth of convolutions,—that is to say, in the extent of the gray matter,—the latter being also similar in its minute structure, and yet one may represent great intellectual power, the other quite an opposite condition."

In short, Dr Bastian means to assert that two brains *apparently identical* may be connected with very different mental powers. The supposition is out of the question, contrary to reason. Granting, however, that two such brains have been met with, and that the mental history of the individuals to whom they belonged answers to the supposition, there is an element to be taken into account which the doctor has overlooked. The organs which in the aggregate weigh the same may separately exist in different proportions in the two brains. One may exhibit large *causality* and small *imagination;* one may have *large causality* and proportionately small *concentrativeness;* one may have *large desire of applause,* the other *little* desire of applause to urge him to intellectual efforts. In short, mere weight, or depth of convolution, or fulness of intellectual regions, are insufficient to warrant our conclusions. These must be formed on a general and careful survey. We use the *phrenological* terms for the sake of convenience. We do not homologate all the details of that system; we merely indicate our opinion that the investigations of Ferrier and others on the brains of the lower animals may yet be supplemented by careful observations of the more *salient* and obvious features of the human cranium, and by connecting pathological appearances after death with the cautious record of symptoms during life.

"Concentration of thought, not as the result of impression from without, but as the result of personal determination within, is not to be accounted for under the known laws of brain action."

How can we account for the remarkable difference between individuals as regards this power of concentrating thought? With some it is a strong faculty, showing itself even in childhood; with others it is virtually absent through life. Doubtless we have mind acting in both cases; but in the one mind finds a fitting cerebral organ for its purpose, in the other that organ is proportionally small and inactive.

2. "*Thought as concerned with the regulation of personal life.*"

"It is as a thinker that man shows his superiority in the direction of his conduct. He reflects upon what ought to be, decides for himself the question of personal duty, and acts in accordance with a rule of life standing out before his mind as a rational law of activity which he must apply for himself."

This is quite the thing to say from a chair of ethics, but does it meet the questions we are discussing? Some children have no tendency to tell an untruth, others lie from their earliest years. Some are benevolent from the beginning, others as conspicuously selfish. Some are brave, others timid. Some have strong wills, others are pliable and easily guided. Lessons addressed to their reflective faculties will be found quite out of place and useless. We have an explanation of all this in the phenomena of brain development; and we wonder how philosophers who have once got the hint that such an explanation is available, and all the more when they have become conversant with other departments of the anatomy and physiology of the nervous system, do not grasp it thankfully as an important key to many psychical difficulties. Dr Calderwood calls us somatists to avoid the sterner word materialists, but it is not necessary to disclaim again the imputation that we regard brain as the *source* of mind. It is merely the limiting condition under which mind manifests itself. This is our reply to the following challenge: "No attempt at scientific explanation has yet been submitted from the side of the somatists, and we may reasonably claim that the defenders of the theory that thought is a function of brain offer their defence at such a testing point."

3. "*Thought as concerned with the absolute Being and His government of the universe.*"

Conceptions of the invisible, the infinite, the divine, do exist in the world, and they have exerted a wide influence in the history of the human race. That this is simple statement of fact cannot be denied—the fact must somehow be explained. The question is, Can a physiological explanation be offered?

To those who believe in divine revelation and in the history contained in the Book of Genesis, this is an unnecessary question. There can have been no period in the history of our race without an idea of God existing in some form, and tradition has never, and will never, allow it to die out. But there is a physiological side, too, from which the question may be regarded by those who believe in brain as the organ through which mind acts both intellectually and morally. The same arguments are applicable to the still higher department with which we are now called to deal. If one portion of the brain has to do with intellect, if another portion has to do with the emotions and moral sentiments, is it unreasonable to infer that another portion still has to do with religious ideas? In whatever way the idea of God arose originally, it seems to be universal in the families of men; yet it is a notable experience that men in all lands differ as widely from each other in the degree of reverence entertained, or at least manifested, by them as they do in any other manifestations either of intellect or of moral sentiment. It is only reasonable to infer, if we admit separate organs in the cerebrum at all, that these differences in the amount of reverence depend on varieties in the development of the organ corresponding with the sentiment. Right or wrong, the phrenologists have assigned a particular region of the *cerebrum* to this sentiment of veneration for superiors, whether human or divine. No observer of his fellows can fail to note the remarkable disparity which exists in this respect among individuals, even among children. Here is still another secret which the key already mentioned might enable psychologists to unlock. It would appear that even among the lowest and most degraded races, who may never have heard a tradition as to the existence of a God, there are beliefs and expectations quite as reasonable as those held by the ancient Greeks and Romans, with all their culture and high civilisation, so that we are inclined to dissent entirely from the view indicated by Dr Calderwood in the following sentence, p. 438:—"If such belief and expectations are compatible with the lowest forms of uncivilized life and with an utter absence of education, the fact presents a serious difficulty for a theory which assigns all human activity to brain action alone and makes the degree of brain development the test of mental power." Does not the universal religious feeling, dark and debased as it often is, point to an organ of *veneration* in all human brains? Mere mental power or brain development does not afford an adequate explanation; for the mentally weak are often more reverential than those who are counted strong and wise. It is an organ of the brain common to all, but varying in its relative proportions.

This natural and universal tendency to venerate, with all its varieties of intensity, is, as we suggest, probably connected with a cerebral organ, and may therefore be independent of tradition. But whether this be the case or not, it renders possible the acceptance of divine revelation on the subject. Did the idea not exist originally, there would be no soil in which it might germinate. A great preacher, taking the traditionary view exclusively, has well said, "Even in the depths of heathen ignorance and darkness God has never left himself without a witness; the primitive traditional revelation is not quite obliterated; there is still some gleam of light that may fit the eye for bearing more—some element of good that may be seized and turned to account."

We have not wittingly misstated or overlooked any stage of the argument which we have been criticising, but we feel that the extent of the ground traversed and our fear of fatiguing our readers may have rendered the result unsatisfactory.

After all, the real difference betwixt Dr Calderwood's view and our own consists in this, that he cannot admit that the higher qualities of mind require the instrumentality of organic structure for their manifestation. That they do require it appears to us beyond reasonable doubt, and this has been our contention from beginning to end of this essay.

A few points still demand consideration before drawing to a conclusion.

In an early page, to which hitherto we have made no reference, there is a very interesting table, presenting some results of an inquiry into the weight of the human brain, as illustrated by the cases of a number of eminent men.

Let it be noted that the average weight, according to Professor Turner, of the adult European male brain is 49 to 50 ounces, that of the female being about 5 ounces less. Here follows a list of brains considerably above the average:—

	Age.	Ounces.
Cuvier, Naturalist,	(63)	64·5
Abercrombie, Physician,	(64)	63
Goodsir, Anatomist,	(53)	57·5
Spurzheim, Physician,	(56)	55·06
J. Y. Simpson, Physician,	(59)	54
De Morny, Statesman,	(50)	53·6
Daniel Webster, Statesman,	(70)	53·5
Campbell, Lord Chancellor,	(80)	53·5
Agassiz, Naturalist,	(66)	53·4
Chalmers, Theologian and Preacher,	(67)	53
Fuchs, Physiologist,	(52)	52·9
Gauss, Mathematician,	(78)	52·6
Jeffrey, Judge and Critic,	(76)	51·8
Babbage, Mathematician,	(79)	49·5

The ages are mentioned because, in the case of old men in the list, some allowance must be made for senile atrophy. In Lord Jeffrey's case, moreover, the cerebellum, which weighed 6⅞ ounces, was not included in the 51·8.

Evidently there is much to be learned from this table. We cannot account for the weight of these brains by the bulk required for mere *sensori-motor* functions. Granting that all of these men *might* have been athletes or eminent in handicraft and artistic occupations, these were not the lines in which they principally exhibited their brain power. We happen to know also that, besides being exceptionally heavy, one or two of the brains in the list were remarkable for the number and depth of their convolutions. Are these not facts which, taken together, warrant an *a priori* presumption that mental power and brain development, *ceteris paribus*, go together? Let us state the question thus: The mind, the soul, the Ego, in the case of these illustrious men, was provided from the hand of God with a powerful instrument with which it could work, while other minds—shall we say as powerful—were provided with brains of inferior bulk, form, and quality, not suited for the splendid intellectual manifestations which made their brethren so conspicuous. This explanation may be called *somatic*, but is certainly not materialistic in the ordinary acceptation.

Another remark still remains to be made. Some men with well-balanced brains, intellectual and moral, are "a law unto themselves," and are not tempted in the way that others often are, who have come into the world with brains more scantily or less symmetrically developed; but transgressions of the moral law on their part, when they do happen, are proportionally aggravated and sinful. Let all be thankful that, whatever be our natural disparities, we have a *thoroughly remedial and divine provision* offered to us by Him who constituted us as we are.

Recent experimental investigations in physiology have done much towards elucidating the *sensori-motor* functions of the brain. These experiments, however, in all probability cannot be carried much farther even in the lower animals, and the way is obviously closed against such experiments on man. Much may be effected in future, as we have already said, by carefully observing and recording mental manifestations in connexion with accidental injuries and morbid changes of the brain; but we would suggest that farther progress might be made in the same direction were young anatomists and physiologists to apply their minds to a calm, unprejudiced inquiry into the real merits of the opinions promulgated by Gall, Spurzheim, and Combe. The two former were more than phrenologists, they were scientific anatomists.

Our knowledge of human structure leads us to think that some of their statements were hasty, premature, and over-sanguine, and there are certain regions of the skull, notably in the lower frontal portion, the examination of which must in all cases be made under great, perhaps insuperable, difficulties; but still we feel confident that some of the wider conclusions of these enthusiastic men were essentially sound, and will be confirmed by careful, kindly study and accurate measurements. The distinction drawn by them between the *knowing* and *reflecting* organs will stand investigation; their allocation, also, of the *moral sentiments*, at least the more conspicuous, will probably be confirmed; and we have a strong impression that the *occipital* region, as already indicated, has much to do with a steady, concentrated application of the mental powers, giving force and effectiveness to them all, and thereby securing retentiveness and vivid precision of memory.

Let this line of observation be taken up *con amore* by some fresh young minds, who, having mastered anatomy and physiology in their newest forms, and having obtained at the same time an adequate acquaintance with psychology, are anxious to explore fields of knowledge still comparatively hidden, and beyond doubt some valuable results will reward their labour.

[This review, written in 1879, has been delayed by unavoidable circumstances.]

A System of Human Anatomy; including its Medical and Surgical Relations. By HARRISON ALLEN, M.D., Professor of Physiology in the University of Pennsylvania, etc., etc. Parts I., II., and III. Philadelphia: Henry C. Lea's Son & Co. London: Henry Kimpton.

THE present work, as the author tells us in his preface, is designed to unite a systematic description of human anatomy with the bearing which the described facts have upon medical and surgical practice. This is an endeavour which is thoroughly to be commended, and which we trust will direct the attention of teachers of anatomy to the importance of this method of study. The tendency to isolate each branch of the medical curriculum from the others is an unfortunate character of our modern system of teaching, and the labour of our students in mastering the enormous accumulation of details which are now required for an anatomical examination would be much lightened if a little more of the physiology of the parts were taught with their anatomy, and a spice of living interest thrown into the subject by an appeal to medical and surgical cases and the possibilities of future practice.

The work is to appear in six sections, containing about 600 pages of letterpress, and is to be illustrated by 380 figures, many of them coloured, on 109 plates, with about 250 woodcuts in the text. Those which have appeared up to the present time are on Histology, Bones and Joints, and Muscles and Fasciæ respectively. The one on Veins, Arteries, and Lymphatics is to be ready on April 15th; on July 25th the section on the Nervous System is to appear, and for the 1st of October the last part is advertised, which is to embrace the "Organs of Sense, of Digestion, and Genito-urinary Organs." Each part is bound separately in paper covers and is conveniently enclosed in a portfolio. The price is 12s. 6d. per section.

The first part, on Histology, is not written by Dr Allen himself, but comes from the pen of Dr Shakespeare, ophthalmologist to the Philadelphia Hospital. So far as it goes, the description of the tissues is clearly written and brought up to date; but in a work whose intention is to aid in medical and surgical practice we are surprised to find no description of serous or synovial membranes, and no systematic account of the skin beyond that of its epithelial covering. We miss, too, the histology of the various glands and viscera of the body, but we presume that this will be included in their general anatomy in Section VI. Dr Shakespeare does not seem to have taken up Dr Allen's intention as to the relations of normal histology to medical and surgical practice; otherwise why should some reference not have been made to such subjects as the process of regeneration of bone, the inflammatory changes in connective tissue, and the union of divided nerves. The relation of blood-corpuscles to anæmia is only briefly and inadequately alluded to.

The plates in illustration of this section are well done, and sufficiently illustrate the text.

In Section II. the Bones and Ligaments are treated of, and the subject is illustrated by numerous plates and woodcuts. In the description of the bones and ligaments Dr Allen seems to have followed, in the main, the ordinary text-books on the subject, but without reaching the standard of accuracy and completeness of the best of them.

An explanation of terms used in osteology is given at the beginning of this section, but for general anatomical terms we must refer to the beginning of Section I. Here we find a vague description of those terms which have been attempted; the introduction of some which are not generally used in human anatomy, such as hæmal and neural, epi- and hypo-axial, pre- and post-axial; and the omission of others which are in constant requisition, *i.e.*, superior and inferior, anterior and posterior. The important terms internal and external, inner and outer, are considered less exact than median and lateral,—median being defined as "near or related to the axis (median line);" lateral, as "near or related to the surface or periphery, as distinct from median" (*sic*). In spite of this, however, internal and external, inner and outer, are used in the descriptions which follow, exactly as in other books.

The paragraphs on medico-legal examination of bones, on the forces altering their shape, etc., and those under the head of "remarks," giving points of practical interest in reference to the bones and joints, are the best in this section, and are valuable as supplementing such books as Humphry *On the Skeleton* and Velpeau's *Surgical Anatomy.* They will be found specially useful to British readers, as giving references to American journals and papers which are not so often read on this side of the Atlantic.

The illustrations are coarse in execution, and have a lettering placed on them which is often difficult to read, and which shows signs, in many places, of carelessness in adjusting the names to the parts.

In the section on joints we cannot agree with Dr Allen's definition of a hinge joint. It runs, "The axis of rotation is perpendicular to the axis of the moving bone." Any one, however, who understands what a hinge is knows that the axis of motion may have any angle whatever to the moving parts without altering the character of a hinge. The definition of circumduction is equally erroneous, but we need not trouble our readers by quoting it.

In the third section, on Muscles and Fasciæ, the ordinary descriptions have nothing particular to recommend them; but the descriptions of the uses of the muscles are generally worthy of attention, as Duchenne's results are in most cases given, though some, such as the action of the diaphragm, are inadequately presented. Many useful clinical points are given in reference to rupture of muscles and the influence of fasciæ in guiding accumulations of pus, etc., in certain directions, and these constitute the distinctive and only valuable part of this section.

Mr Syme's name is frequently written Mr Symes, which may be altered in a future edition.

Altogether, although much valuable information is to be gained from the paragraphs to which we have referred, the ordinary descriptive parts and the illustrative plates have nothing special that can be said in their favour.

Anatomy: Descriptive and Surgical. By HENRY GRAY, F.R.S., Fellow of the Royal College of Surgeons, Lecturer on Anatomy at St George's Hospital Medical School. With an Introduction on General Anatomy and Development, by T. HOLMES, M.A. Cantab., Surgeon to St George's Hospital, etc. Tenth Edition. Edited by T. PICKERING PICK, Surgeon to St George's Hospital, etc. London: Longmans, Green, & Co.: 1883.

WE gladly welcome the tenth edition of Gray's standard work on anatomy. The sections on minute anatomy and development have been brought up to date; those descriptive of the muscles, nerves, and bloodvessels still maintain their very high position; while the illustrations of this part of the work have, in our opinion, no rival in any text-book in this or any other language.

Questions on Anatomy. By SAMUEL POTTER, M.A., M.D.
London : Henry Kimpton: 1883.

THIS is a book which we cannot recommend to our readers either as good in intention or as successful in performance. It is one of those cram manuals which are daily being added to our already over-stock supply of the same sort of thing. The headings are put in the form of questions, while the short cramped descriptions which follow are given as the answers to these. There is nothing in the method of arrangement which is to be recommended over others of a similar nature which have been already published; while the illustrations which have been inserted are either the same as, or inferior to, those which appear in any of our standard text-books of anatomy.

The Botanical Atlas: a Guide to the Practical Study of Plants; containing Representatives of the Leading Forms of Plant Life. By D. M'ALPINE, F.C.S., Lecturer on Botany. Parts XI. to XIII. Edinburgh: W. & A. K. Johnston: 1883.

IN the number for March we gave our opinion of Parts I. to X., and the favourable opinion therein expressed holds good regarding the three remaining parts, which complete the work.

These volumes will be of great service to those engaged in the practical study of plant life.

The Quarterly Therapeutic Review: a Record of the Published Special Applications and Preparations of Medicines, New Remedies, New Formulæ, and New Instruments. No. I., January 1883. London: Baiss Brothers & Co.

THIS is an abstract from various published journals of notices of new and rare medicines; and if the subsequent numbers equal this one in the selection made, it will prove of great interest and use to many members of the profession who may not have access to the various periodicals from which it quotes.

The Quarterly Journal of Inebriety. January 1883.

ALMOST every medical journal that one takes up nowadays contains something relating to inebriety. The above journal is entirely devoted to the discussion of this subject. American journals contain the greatest number of articles, and have done most to enlighten us in regard to the condition of inebriates and their treatment.

The point which is most frequently brought forward is what may be called the "disease theory" of inebriety. There may be, and there is, a difference of opinion as to what amount or stage of inebriety constitutes a disease; but this is agreed among all medical writers, that in certain individuals, and also when it has reached a certain pitch, inebriety is undoubtedly a disease—in other words, a form of mental aberration or insanity.

The question which lawyers and legislators will ask us is, how the disease inebriety is to be distinguished from the vice of drunkenness. For there is an undoubted distinction, which all admit. The symptom about which there can be no doubt, and on the existence of which all are agreed, is the uncontrollable desire or crave for alcohol. If a man can control his liking for alcohol, and takes it to excess simply because he likes to or wishes to, he is a vicious drunkard. On the other hand, the man or woman who has a crave for alcohol which he or she cannot resist is an inebriate, or, as the late Sir Robert Christison styled such, "a drink-craver." It is not essential that an inebriate should always have this crave, or even frequently; on the contrary, it is very specially characteristic of this disease that it is periodic. Such a person may abstain from all alcoholics, or may even be able to take them in moderation, for a considerable time;

but after a certain interval the crave comes on and must be indulged in *if the means of indulgence are within reach.* Now, this is the point where the means recommended for treatment come in. All writers on the treatment of inebriates, however they may disagree in regard to other things, agree in this, that they must be removed from the means of indulging the crave when it comes on. Medical men are also agreed that asylums for the insane are not the places where inebriates ought to be treated.

A pretty general opinion seems to be gaining ground that occupation is an essential part of the proper treatment of inebriates.

The third thing on which medical writers seem to be agreed is a nourishing, non-stimulating diet. In regard to occupation we would offer a few remarks.

It is wonderful that the necessity for occupation of both body and mind has not been more prominently brought forward. It is only of late that we have seen it much dwelt upon. The necessity for such occupation is very apparent when we think of how many persons fall into the habit of drinking to excess. It is when a man has had his business ruined and himself thrown idle, or when he has lost all pleasure in his occupation by some sudden grief, that he takes to drinking. On the other hand, the recoveries from drunkenness that we know or read of have always been associated with some revival of interest in work, or the introduction to some new and engrossing occupation. Those religious organizations which aim at reclaiming drunkards know this, and aim at keeping their converts by giving them special work to do. That drunkards should be reclaimed at all seems to us more wonderful than that they should, after apparent reformation, fall away again. Considering the nature of the disease from which in many instances they suffer, the numerous temptations by which they are everywhere surrounded, and the degradation of their moral senses and self-control from which they suffer, it is wonderful that any are reformed. Indeed, we suspect that the reformations are mainly, if not solely, from the ranks of the vicious drunkards, not of the diseased inebriates.

Some worthy and enthusiastic and also successful workers among the drunken classes of our cities believe that God's grace is sufficient to reform all drunkards. They believe that conversion is all that is necessary. Now, we beg, with all respect, to differ. God does not in our day, as far as we have been able to see, work miracles for the cure of disease, and simply because He has graciously provided means to be employed to that end. And we believe that harm may result, and does result, from earnest and good men not realizing this. It is evident that if the attempt to cure diseased inebriates is made without separating them from the possibility of indulging their crave, they will most likely, if not certainly, fall when the crave comes on. In this way religion will be discredited, and drunkards discouraged from seeking to mend their ways. What we would recommend, therefore, to social and moral reformers is that they should recognise the practical distinction between the two kinds of drunkards, and hand over the diseased inebriates to be treated by medical men in retreats properly appointed, where the patients, besides being separated from all possibility of alcoholic indulgence, will be provided with suitable diet and occupation for body and mind. Whether such retreats might not be made self-supporting is a point worthy of consideration. It seems to us that there are many inebriates who, belonging to the educated and refined classes, could not be put to remunerative labour. But these could have their own appropriate work, which in its own way would "pay" by materially helping to bring about a cure.

We have said so much on the general subject that we have no room left for extracts from the numerous valuable papers contained in the journal referred to above. But we strongly recommend them to our readers.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LXII.—MEETING VI.

Wednesday, 4th April 1883.—Dr G. W. Balfour, *President, in the Chair.*

I. Election of New Members.

Professor François Franck of Paris and Professor R. Lépine of Lyons were elected Corresponding Members, and William Hy. Shirreff, M.B., C.M., L.S.A., Edinburgh, an Ordinary Member, of the Society.

II. Exhibition of Patient.

Dr Allan Jamieson showed a boy, æt. 12, suffering from PAPILLOMA NEUROTICUM, a disease of which only a few instances have been recorded. The boy was quite well up to about four months ago, when his mother noticed some spots about his neck, which had since extended from above downwards, following the course of the cutaneous spinal nerves. In the cases previously recorded the spots were observed on only one side of the body. In this instance they appeared on both sides. The groups of papillæ approached in character to ichthyosis hystrix, while the localization was similar to that sometimes met with in ichthyosis, morphœa, and zoster. There was some pigmentation of the skin, which appeared to be congenital. The papillæ on the back in parts unaffected by the disease were pretty well developed, being seen with a lens to be much rougher than in ordinary cases. There seemed to be no interference with the nutrition and no pain.

III. EXHIBITION OF PATHOLOGICAL SPECIMENS.

1, 2, and 3. *Mr A. G. Miller* showed (1) the HEAD OF A FEMUR excised for advanced disease. The patient, a boy, had been long under treatment, and had at one time apparently recovered with ankylosis. The disease returned in a more aggravated form, and excision of the head with the trochanter major had to be done. During the operation it was seen that ankylosis had taken place, part of the head of the bone remaining attached to the acetabulum. (2) A FOOT removed by Syme's operation for disease succeeding a crush. The patient was a small boy, who walked home after having both feet injured by a tram-truck. He was not brought into hospital till some days had elapsed and gangrene occurred. A partial amputation, saving the great toe and part of metatarsus, was done on one foot. The disease was too extensive in the other foot to admit of anything being done but a Chopart or a Syme. He preferred the latter and did it. The child seemed to have received a shock to the nervous system at the time of the accident, for he disturbed his neighbours in the ward by continually calling out "murder" except when his feet were being dressed. He suffered no pain, and there was no satisfying his curiosity regarding his wounds, for as often as a new dressing was put on he had it off to fumble at the wire stitches. Nevertheless the healing had gone on well, while his nervous condition was improved by the administration of bromide of ammonium. (3) A FOOT removed by Syme's method for caries of tarsus commencing in the ankle-joint.

IV. ORIGINAL COMMUNICATIONS.

1. *Dr Leith Napier* read a paper entitled CASE OF DIFFICULT LABOUR; METRO-PERITONITIS; CARBOLIC ACID POISONING ON FIFTH DAY; SEVERE GENERAL SEROUS INFLAMMATIONS; DEATH: WITH REPORT TO PROCURATOR-FISCAL, which will appear in a future number of this Journal.

The President said the Society was indebted to Dr Napier for bringing the case before them. There was one curious point in regard to the administration of carbolic acid, that when given by the mouth he had never seen the dark urine which was so often noted where the acid was used surgically in the treatment of wounds. He had given it in catarrh of the bladder to keep the urine sweet, and in other diseases, in doses equal to fifteen or twenty grains a day, and it had even been taken in larger quantities than he intended, without affecting the colour of the urine in the way mentioned.

Mr Maxwell Ross said that when he was house-surgeon in charge of Mr Joseph Bell's wards a case of carbolic acid poisoning had occurred which might throw some light on the discharge of mucoid membrane which Dr Leith Napier believed to have come from the bladder in his case. The patient was a woman whose mamma had been excised for scirrhus. She was going on well, when symptoms of carbolic acid poisoning appeared, and, among other things, retention of urine. This, when drawn off by the catheter, was dark and smoky. She died with cerebral symptoms on the tenth day after operation. At the post-mortem examination the mucous membrane of the bladder was found to be intensely congested, especially in the vicinity of the cervix uteri (which was indurated). It was also thrown into rugæ, on the surface of which were a few gray patches diphtheritic-like in their appearance. In other parts there were a few punctiform hæmorrhages. These the pathologist and others present had connected with the carbolic poisoning. The wound had nearly healed by first intention, but the poisoning had occurred through absorption from the spray and dressings.

Mr A. G. Miller had noted one thing as remarkable, the absence of abdominal, and presence of chest symptoms. He had had some experience of the internal administration of carbolic acid, while in charge of several pyæmic patients who had been left under his care in the old Infirmary after the new was opened. He had noticed that the urine was not readily affected by the drug. The early symptoms of poisoning were sickness, irritation of stomach, and abdominal tenderness. As to the effect of the glycerine of carbolic acid, he had seen that a Dutch chemist, in a number of the *Pharmaceutical Journal,* recommended it as the least irritating preparation of the acid, and his experience since was in accordance with that statement. Both internally and externally, larger quantities could be administered than in any other form. Either a carbolate was formed, or the carbolic acid and the glycerine had an affinity for each other, so that the textures were less irritated than when watery solutions were used. Glycerine might even act as an antidote to the acid. He had given the carbolate of quinine in erysipelas, and found it very useful. It had a more powerful effect in reducing temperature than quinine itself, either alone or with sulphuric acid. He considered it a good method of giving quinine in septic cases, as the discharges were rendered sweeter. Dr Napier had asked about inflammations of serous membranes. He had noticed in children a congestion of the lungs to come on very readily. In one case in which he had performed amputation, congestion of the lower lobe of the right lung and smoky urine occurred. When carbolic acid was discontinued these disappeared. The patient had an abscess later on, which was opened antiseptically, when the lung congestion and smoky urine recurred. He had found no pleuritis.

Dr Bramwell said the main question of interest in this case was, What was the cause of death? It seemed to him this was a question they could hardly settle so well as Dr Napier, who was in charge throughout, because very often symptoms were noted of too undefined a nature to admit of their being described on paper, and yet were of value in forming an opinion. In cases where poisoning occurred in this way, the acid acted, he supposed, first as an irritant to the stomach; and if pericarditis and affection of other serous membranes occurred, it might be by extension, as in the case of other corrosive irritants, but there seemed no good reason to suppose that there was so much irritation in the stomach as to lead to this. The stomach symptoms were slight. He did not know whether the serous membranes had been described as being affected in carbolic acid poisoning.

Dr Napier.—They have, by Billroth in his recent volume, published by the Sydenham Society.

Dr Bramwell had not been aware of that, but he thought the weight of evidence was that these inflammations were due to septic conditions rather than to the carbolic acid.

Dr Napier expressed gratification at the corroboration of several of his views by Mr Miller. Carbolate of quinine was perhaps more powerful than any other agent in reducing temperature. The mildness of the stomach symptoms referred to by Dr Bramwell might be due to the fact that the carbolic acid was given with glycerine. In Billroth's paper several cases of poisoning were mentioned where the serous membranes and linings of joints were affected. As to the view that sepsis was the cause of the affection of the serous membranes in his patient, he had only to say that he had put on record a series of thirty-two cases of septicæmia (puerperal), but he had never seen a similar instance of inflammation of these membranes without serious implication of the uterus and peritoneum.

2. *Dr Allan Jamieson* read a paper on ACUTE CIRCUMSCRIBED CUTANEOUS ŒDEMA, which will appear in a future number of this Journal.

The President said that Dr Jamieson had left him a little in the dark as to how those circumscribed œdemas arose. He could not understand a localized œdema without some alteration in the lymphatic circulation. They sometimes arose from flea-bites and similar injuries, which might lead to thrombosis of the lymphatics. They also sometimes occurred without obvious cause in people of a gouty habit when laid aside from active exercise. He saw some patients occasionally who invariably had thrombosis of their veins when laid up from any cause whatever. He did not suppose all the cases were cases of thrombosis, but there must be some affection of the lymphatics to give rise to the peculiar swellings. Even though the cause did act through the nervous system, there must be some affection of the vessels. The investigation of these phenomena was of great importance as bearing on the subject of temporary paralysis and aphasia, which were of even more common occurrence than these sudden acute œdemas in gouty patients.

Dr Byrom Bramwell said the paper explained to him several cases—two in particular—in which such swellings were noticed.

The first was that of a lady who suffered from one on the lower lip at each menstrual period. She was also at this time in the habit of suffering from sick headache, showing the probability of some connexion between the nervous system and the swellings. A second case showed the connexion between them and urticaria. The patient was a prostitute, admitted under his care in Newcastle Infirmary. She suffered from acute bronchitis and hæmoptysis, expectorating a large quantity of frothy, bronchitic sputum tinged with blood. On the surface of the skin and buccal mucous membrane were large urticarial eruptions. She continued in this state for some days, when, as she was near her confinement, it was suggested to her that she had better be removed to the Maternity Hospital. This had a severe effect on her mental constitution, so much so that in twelve hours the bronchitis and urticaria had disappeared. This case seemed allied to Dr Jamieson's case of acute pulmonary œdema. Dr Ord had suggested that chronic rheumatic arthritis depended on nerve origin, like those cases of locomotor ataxy in which there was joint lesion.

Dr James spoke in favour of the theory of the nervous origin of such cases. A demonstration had been made on the frog, showing that the irritation and œdema caused by the injection of a solution of salt into the leg passed off if the lumbar region of the cord were intact, but remained if it were destroyed. What struck him as being of interest in connexion with the œdemas was whether the lesion of the nervous system was central or peripheral. His opinion was that the evidence was in favour of a central origin, but investigation was required.

Dr Byrom Bramwell referred to Cohnheim's experiments, in which œdema did not occur while the sciatic remained intact. Section of the sciatic paralyzed the vasomotor nerves, in consequence of which the venous return was too great to be carried back by the collateral circulation. Occasionally cases of phosphaturia, with swelling of eyelids but no albuminuria, were observed, a condition probably depending on some central nerve lesion.

Dr Andrew Balfour, about seven or eight years ago, saw a lady who suffered from chronic rheumatic arthritis. There occurred in several parts of the body, underneath the skin, hard swellings, which were decidedly painful. They remained for two or three weeks, when they passed off just as they came. He thought they were of nervous origin.

Dr James said a nearly parallel case was related by Carpenter in his *Physiology*, as showing the influence of the nervous system. A lady saw a child passing through a gate, which she imagined was about to fall on the child's ankle. She rushed forward to catch the child, when a sudden pain in her own ankle stopped her. On taking off her stocking, a distinct swelling, which afterwards suppurated, had occurred.

Dr Craig remarked that she might have sprained her ankle.

Dr James said it was specially mentioned that she had not.

Dr Leith Napier said the paper explained to him a case which occurred in his practice some time ago. The patient was a young woman, eight months pregnant, who suffered from œdema repeatedly. One morning, suddenly, she lost her voice altogether. It soon returned, but next day there were swellings in one cheek. There was more or less of recurrent swelling in each hand and eyelid. He was inclined to ascribe the case to kidney congestion, there being albuminuria. The swellings disappeared, then returned, and were followed by hemiplegia, which continued till after the confinement. This case seemed to show that the nervous system had some influence in determining these swellings.

The President said the cases of thrombosis he had referred to were primary, a coagulation of blood having taken place owing to the stasis due to remora depending on want of muscular movement in limbs having varicose veins of a gouty character. Neither œdema nor inflammatory action always followed, though there was sometimes the one and sometimes the other, and occasionally both. He did not doubt that in many cases the local swellings referred to depended on nervous disorder, but he was at a loss to understand the exact mechanism of their production, as sometimes acute œdemas were small and tense, at others as large as an orange; sometimes persisting for a time, at others passing off in an hour or two, yet without any signs of vascular disturbance.

Dr Jamieson, in replying, thanked the members present for the interesting discussion to which his paper had given rise. In explanation to Dr James, the remarks on paralysis of the sympathetic were a quotation from Dr Laudon's paper, and referred to those cases specially. Dr Bramwell had amplified in an interesting way the connexion he had indicated between urticaria and circumscribed cutaneous œdema. As to what the president had said with regard to lymphatic obstruction and venous thrombosis, such an idea would bring cutaneous œdemas such as he had recorded into relation with erythema nodosum, where the theory was that of emboli; but in erythema the swellings were tender, and passed through the same changes of colour as a bruise did. He thought the relationship closer to urticaria, in which the theory of thrombosis had not been suggested. A central origin was the most probable.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XLII.—MEETING V.

Wednesday, 14*th February* 1883.—Professor SIMPSON, *President, in the Chair.*

I. *Dr Croom* exhibited the UTERUS from a patient of Dr Murray of Leith, who had died of phthisis and hæmorrhage from the uterus. On section the uterus contained a mass apparently of hydatids, which was referred to the pathological committee. Also a FŒTUS WITH EXOMPHALOS, from Dr Sinclair.

II. *Dr W. L. Reid* of Glasgow read a paper on A NEW FORM OF BIVALVE SPECULUM, which will appear in a future number of this Journal.

Dr Croom said that the Fellows were indebted to Dr Reid for exhibiting his speculum, which was an ingenious and valuable instrument. For the last two years he had abandoned the use of the speculum as a routine practice in examination, and he believed its use was being supplanted by the Bimanual. For operative treatment he preferred the Sims.

Dr Peter Young thought that one advantage was that the blades were shorter than the Sims, and that it was easily introduced. One disadvantage was that it consisted of several parts, and one might easily be mislaid. With this exception, it was an admirable invention.

Dr Bruce asked whether the walls of the vagina did not fall in and interfere with the view. It seemed to be a very handy and useful instrument.

The President thought the Fellows were indebted to Dr Reid for taking the trouble to show his instrument. The fingers often served the purpose of a speculum. Sims's speculum was the best, and he found in practice that it could sometimes be worked single-handed. What was wanted was a speculum which would depress the posterior vaginal wall like a spatula, and could be fixed in position, such as Battey's. Dr Reid's was, however, the best form of bivalve speculum, and would no doubt be found to have the advantages he claimed for it.

III. *Dr W. J. Brock*, Glasgow, read his paper on OBSTINATE VOMITING DURING PREGNANCY.

Dr Peter Young thought the Fellows were indebted to Dr Brock for taking the trouble to bring this subject under their notice. Dr Brock's account of the etiology was not satisfactory. To say it was an idiosyncrasy did not convey any idea as to the cause. It was due to a greater impressibility of the nervous system in some individuals, which made them more susceptible to a peripheral irritation. It might be due to a condition of the muscular fibre, or to a congested state of the ganglia outside the uterus—either the ganglia immediately beside the uterus or those of the hypogastric plexus. He thought the analogy of exophthalmic goitre a very happy one; he had found the cervical ganglia congested in a case of exophthalmic goitre. It was possible that a similar condition might, in cases of obstinate vomiting in pregnancy, be found in the ganglia beside the uterus. As to treatment, he had found the tincture of aconite (recommended by Hodge) in doses of two to three drops beneficial in some cases.

The President said that one objection to the theory of the vomiting being due to an idiosyncrasy was that it was not always present in all the pregnancies of the same individual. He thought a local cause should always be looked for. Copeman's treatment was beneficial in cases where the membranes were adherent. He hoped that Dr Brock would continue his investigations into thi important subject.

IV. *The President* read his paper on THE PROPHYLAXIS O OPHTHALMIA NEONATORUM, which appears at page 877 of this Journa

Dr Croom said that for the last five years he had used the sam treatment after the disease had showed itself. He had tried, fo a time, the prophylactic measures of antiseptic injections, but wit no special result. Ophthalmia was, in his experience, so rare tha he did not think the prophylaxis was called for.

Dr Robertson thought that the cause of ophthalmia was some times mechanical injury to the eyes, as in careless examinatio during the labour.

Dr Craig and other Fellows called in question the statement tha this was a cause.

Dr Wilson had found the three most common causes were cold leucorrhœa, and gonorrhœa.

Dr Milne Murray had tried, in one case of advanced ophthalmi due to gonorrhœa, a solution of nitrate of silver—75 grains t ℥j., and with good result. Of twelve cases discharged from th Maternity which came under his notice, three had ophthalmia These cases were, however, from the poorest class of patients. I all of these cases the strong solution of nitrate of silver had cure the disease.

The President said he would recommend the prophylactic treat ment as a routine practice only in a Maternity. He was speciall interested in the experience of Dr Milne Murray in the Con valescent House, because it showed how large a proportion o children were affected with this disease, and it showed further tha whilst the disease was kept in comparative abeyance so long a the infants were under treatment in the Maternity, there was risk that on their being carried off to poor homes the malady migh soon assume mischievous proportions. In private practice its em ployment might be restricted to cases where gonorrhœa wa suspected, or where a parturient woman was the subject of an disagreeable discharge.

Part Fourth.

PERISCOPE.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburg School of Medicine, etc., etc.

QUEEN OF THE MEADOW FOR ENLARGED PROSTATE.—Dr J Baugh, of Hamilton, Canada, reports the use of this comparativel new remedy, which has been too much overlooked by the profes sion. He says, in the Canada *Lancet*, August 1882:—The use of this drug in the treatment of senile enlargement of the prostate gland has, in three cases, given me wonderful results. About ten months ago I was called to see T. B., æt. 68, in the city of London, and found him suffering from retention of urine. I had him put immediately into a hot hip-bath, the hot water coming well over the pubes, and administered a drachm of paregoric and twenty drops of Hoffman's anodyne every thirty minutes. He remained in the bath about fifteen minutes, when hot wet cloths were applied over the bladder. Nearly two hours elapsed before this method of treatment had the desired effect. After the bladder had been evacuated, I found, on examination per anum, hypertrophy of the prostate. I then explored the urethra with a No. 10 catheter, found no obstruction, and the instrument glided into the bladder without difficulty. Two weeks subsequently to this attack I was called again to the same patient. I tried my former method of treatment, but it failed. I also failed to introduce the catheter. Matters were becoming alarming, and I was about to send for professional assistance, when it came from another source, viz., an old woman. She volunteered the information that the patient wanted a dose of queen of the meadow (the common name for *Spiræa ulmaria*), and that if he could get it it would cure him in quick time. She said some could be procured in a few minutes. I asked her to get it. It was brought, an infusion was made, and half a pint given to the patient; and in fifteen minutes he desired to micturate, and emptied his bladder without difficulty. Since that time the patient has needed no medical or surgical aid to rid him of his old enemy. If he gets on a spree and his old trouble threatens him, he takes queen of the meadow tea and rejoices in being saved. In two other cases of this nature in which I used this drug the results were just as satisfactory. I have tried it on myself in health, and find it acts as a diuretic and astringent, since it sometimes causes smarting pain as the urine passes along the urethra. Its antispasmodic properties are very marked on the sphincter vesicæ, and I think much of its virtue in the affection named results from its power to overcome the contraction of the neck of the bladder arising from irritation in the prostatic region. It is my opinion that in many cases of retention of urine from prostatic enlargement the enlargement is not, *per se*, the main obstacle, but rather the spasmodic contraction of sphincter vesicæ, as the result of sudden congestion or inflammation of the prostate gland. In conclusion, I would ask for this drug a fair trial by the profession (*Virginia Medical Monthly*).—*Therapeutic Gazette*, Dec. 1882.

CEREUS BONPLANDII.—Dr Cullen states that this is one of the many species of cactus, and that, having tried it in several cases of functional heart disease, he is willing to wait and try again before deciding it as the best remedy ever used, as asserted by several physicians. One of his cases has been at death's door several times, and has recovered under its use. The symptoms were shortness of breath, inability to lie down, great frequency of pulse, flushing of face, lips and fingers almost stagnant with blood. Having tried the usual remedies,—digitalis, bromide of potassium,—and these without success, he gave the fluid extract of *Cereus Bonplandii* in 15-drop doses. In half an hour he repeated the dose. The action of the heart moderated, and from 125 gradually came down to 90 pulsations in the minute, or even less. In two cases there was suppression of urine, which warm baths and acetate of potash failed to relieve, and in conjunction hair-cap moss was given, half a drachm of the fluid extract at a dose, every two hours. In one case the kidneys commenced acting, and over a gallon of water passed during the next twenty-four hours. He does not believe the patient would have lived twenty-four hours without the use of the latter remedy. The author believes that this combination is the best where the urine is scanty and albuminous, and drowsiness indicating coma is apparent. The few cases of benefit already have led him to believe that both drugs will be more freely used in similar cases (*Virginia Med. Monthly*).—*Therapeutic Gazette*, Dec. 1882.

Defibrinated Blood for Rectal Alimentation.—During the sixth stated meeting of the Therapeutical Society of New York, the Committee on Restoratives, through its chairman, Dr Andrew H. Smith, presented a report, a summary of which may be thus stated:—The report covers sixty-four cases. Thirty-eight were of phthisis. Of these, in eight the treatment was not well borne; ten were not noticeably benefited; twenty received benefit, some of them slight, others very decided. One case of diarrhœa in phthisical patient made worse. Nine cases were of anæmia; of these one was not benefited, eight were greatly improved or cured. Five cases were of dyspepsia. All benefited, some of them remarkably. Several apparently cured. One case of dyspeptic asthma entirely relieved while the treatment was continued. Four cases of exhaustion from various causes all benefited. Three cases of neuralgia, one not benefited, two decidedly improved. Two cases of gastric ulcer; one not benefited, death taking place from hæmorrhage; one rescued when apparently moribund. From the facts before them the committee feel warranted in the following conclusions:—1. That defibrinated blood is admirably adapted for use for rectal alimentation. 2. That in doses of two to six ounces it is usually retained without any inconvenience, and is frequently so completely absorbed that very little trace of it can be discovered in the dejections. 3. That administered in this way once or twice a day it produces in about one-third of the cases, for the first few days, more or less constipation of the bowels. 4. That in a small proportion of cases the constipation persists, and even becomes more decided, the longer the enemata are continued. 5. That in a very small percentage of cases irritability of the bowels attends its protracted use. 6. That it is a valuable aid to the stomach whenever the latter is inadequate to a complete nutrition of the system. 7. That its use is indicated in all cases not involving the large intestine, and requiring a tonic influence which cannot readily be obtained by remedies employed in the usual way. 8. That in favourable cases it is capable of giving an impulse to nutrition which is rarely, if ever, obtained from the employment of other remedies. 9. That its use is wholly unattended by danger.—*New York Medical Journal.*

KOLA NUT—STERCULIA ACUMINATA.—Kola nut, or, as it is also called, the Gourou or Ombémé seed, has lately been submitted to a careful chemical investigation. In the *Comptes Rendus*, 20th March, p. 802, MM. Heckel and Schlagdenhauffen point out that this nut is richer in caffeine than the best coffee, the alkaloid being found in it in a free state. In addition to caffeine it contains the same alkaloid as cocoa, viz., theobromine, as well as a considerable quantity of glucose. It possesses great advantages over cocoa, for it contains but little fatty matter and three times as much starch. The above confirms the statements of Dr Daniell, who for some time resided on the west coast of Africa, for he states that, when suffering from a peculiar form of diarrhœa to which Europeans are subject, and which arises from relaxation of the mucous membrane of the intestines, he was relieved by drinking a decoction of the fresh seeds. He adds that the valuable properties of these nuts are partly due to their containing the same active principle as coffee and cocoa, and partly to a peculiar aromatic volatile oil. It has lately been stated by a Jamaica sugar-planter that the negroes use it as a cure for drunkenness. They grind up a nut and make it into a sort of paste or cream with spirit or water, and then this paste is swallowed, no signs of intoxication remaining after half an hour. The chewing of the nut a short time before meals promotes digestion and prevents attacks of liver complaint, to which so many are subject. The taste of the kola nut is bitter and astringent, but when dry they lose all bitterness.—*The Quarterly Therapeutic Review*, January 1883.

VIBURNUM PRUNIFOLIUM IN THREATENED ABORTION.—From seeing frequent mention of the remarkable property of *Viburnum prunifolium* in controlling uterine contractions, I was induced recently to use it in a case of threatened abortion, with the following results:—*Sept. 28th* 1882.—Was hastily called from bed to see Mrs F., whose husband informed me that she was flooding and in great pain; was taken quite suddenly on waking from sleep, after having retired feeling as well as usual, but fatigued from a hard day's work at the wash-tub and quilting. I found the lady (who is a delicate woman with a highly sensitive nervous organization) very much alarmed, with regular pains occurring at intervals of five minutes, and considerable hæmorrhage. Pain chiefly complained of in small of the back, but uterine contraction marked enough to be plainly manifest to the touch in applying the hand over the abdomen. The patient between the seventh and eighth month of her pregnancy. I administered morphia in eight-grain doses every two hours until pain should be relieved. Called at 9 A.M. next morning. Patient drowsy after having taken three of the powders; pain not quite so severe, but hæmorrhage still present; considerable nausea from the morphia, which I was informed always followed its use, and before prescribing it had learned that she could bear but small doses in consequence of such results. I at once ordered fluid extract viburnum to be taken every hour in teaspoonful doses until I should see the patient again, and retired. Called again in the evening; found the hæmorrhage had ceased; pain, however, as great as ever, but not so frequent; nausea relieved, but patient quite nervous. Ordered bromide potassium, and continued viburnum; requested to be called if taken worse during the night. Left the lady, and returned in the morning, to find her feeling well, pain all gone; had slept well, and had partaken of some refreshment. Continued the viburnum every two hours. Saw her again in the evening feeling entirely relieved; no pain, no hæmorrhage, and expressing a desire to be out of bed. Directed viburnum to be continued in same doses three times a day for a week, and dismissed the case. Have since learned the patient is as well as ever. The results of this case seem to be due wholly to the viburnum, and I shall use it again with confidence (by E. T. Metcalf, M.D., Tallula, Ill.)—*Therapeutic Gazette,* November 1882.

BROMIDE OF POTASSIUM IN VOMITING OF PREGNANCY.—For the last thirteen years of my practice I have invariably used bromide of potassium as the remedy for the obstinate vomiting and nausea consequent on pregnancy. On considering the pathology of the disease, which is dependent purely on reflex irritation from the pregnant womb, transmitted through the spine, without local irritation of the stomach in the early stages, I was convinced that the true method of treatment must consist in giving some drug which would act directly on the irritated and probably congested spinal cord. This being the case, bromide of potassium was obviously the first thing to be tried. Its exhibition was followed by the most marked success, the nausea and sickness almost invariably ceasing in a few days, in many cases never to return during the pregnancy, in others to return perhaps at intervals, but to yield again to a few doses of the remedy. I give it in doses of ten grains dissolved in half an ounce of water every two or three hours, according to the severity of the case, until the patient gets relief, then less frequently until all nausea is gone, with perhaps for two or three days afterwards an occasional dose. Those of my patients who have ever taken this remedy invariably on their subsequent pregnancies communicate with me that they may take it, the benefit they have received being so indelibly fixed in their memories. I consider it of the first importance that it should be taken early in the case, before the sickness has gone on so long as to have set up local irritation and congestion of the stomach as the result of frequent vomiting. Nevertheless I think it well to try it in all cases, never mind of how long standing, without the usual topical remedies, until it is found that so much local gastric trouble has been set up as to continue the vomiting independently of the reflex spinal irritation. In those cases in which this state of things is found, in addition, I give oxalate of cerium, bismuth, or other suitable gastric sedatives. So unfailing a remedy have I found it for the sickness of pregnancy, that I have used it as a collateral means of diagnosis in cases of unmarried women where the existence or non-existence of impregnation was questionable (J. M. Creed, L.R.C.P.)—*The Australian Medical Gazette*, 15th December 1882.

OCCASIONAL PERISCOPE OF DERMATOLOGY.

By W. Allan Jamieson, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

Sulphur Treatment of the so-called Seborrhœa Sicca.—Unna, while he allows that seborrhœa oleosa is rightly regarded as due to disordered secretion of the sebaceous glands, regards seborrhœa sicca as a parakeratosis closely allied to pityriasis capitis, but distinguished by the larger amount of fatty material in the scales. In its treatment he recommends the head to be well saturated with oil, or, should there be much hyperæmia and tenderness, with oil and lime-water in equal proportions, and the head covered for the night with an impermeable cap. Next morning the head is to be washed with soap and tepid water, or merely carefully combed. The hair must now be parted in all directions, and a sulphur pomade rubbed in, to which, at least in the first instance, Unna adds zinc, as—

℞	Zinci oxidi,	
	Sulph. precip.,	āā 3·0
	Adipis,	30·0
Or ℞	Sulph. precip.,	3·0
	Ung. zinci, B.P.,	30·0

When the hyperæmia and tenderness have disappeared he uses a simple sulphur salve. The oil packing during the first week must be repeated nightly. By the second week the new formation of masses of scales is already so diminished that generally three or four soakings with oil are sufficient. In the third week two are enough, and by the fourth week—should the seborrhœa still remain uncured—one. Cases which have previously been treated by the usual methods of the text-books, and were regarded as incurable, have yielded always in from three to six weeks under this plan. Nor does there seem any advantage to be gained by internal remedies. Two illustrative cases are recorded in full, where the results were eminently satisfactory.—*Monatshefte für praktische Dermatologie*, December 1882.

XANTHELASMA UNIVERSALE.—Korach of Cologne brings out some interesting points in the microscopic anatomy of xanthelasma and in its etiology. Groups of finely granular material situated in the papillary layer of the corium had been already observed by Waldeyer, but the exact nature of these had not been determined. Korach shows that while xanthelasma palpebrarum is met with frequently in healthy persons, who have never suffered from any disorder of the liver accompanied with jaundice, xanthelasma universale is almost invariably associated with jaundice of considerable duration, and that the xanthelasma usually commences on the upper eyelid,—commonly the left first, and always on the nasal side,—in both the palpebral and universal forms. Since the finely granular masses were unacted on by ordinary reagents, he regards them as bleached pigment, altered bile colouring matter. That these have no connexion with the sebaceous glands is shown by the groups being found deposited round the unaltered sebaceous glands, and because xanthelasma is found on the palms, where there are no sebaceous glands. The groups are never found so deep in the skin as the sweat-glands lie. Besides the areas of granular matter, there is in xanthelasma also hyperplasia, with proliferation of the nuclei of the upper layers of the corium, and occasional aggregation of free fatty particles in the form of irregular flakes, especially in the sides of the papillæ just below the rete Malpighii. In one case described by him the universal xanthelasma became less intense with the diminution of the jaundice.—*Deutsches Archiv für klinische Medicin*, December 1882.

CHROMIC ACID IN CERTAIN AFFECTIONS OF THE TONGUE.—Butlin has discovered that chromic acid, in the proportion of ten grains to an ounce of water, painted on three or four times a day, causes rapid healing of *secondary* syphilitic ulcers, mucous tubercles, and condylomata, when affecting the tongue or palate. The raised areas quickly subside till they reach the level of the normal tongue, and the little red areola which surrounds them disappears. As a rule, tertiary lesions of the tongue are not influenced.—*Practitioner*, March 1883.

ICHTHYOL.—Under this name Unna introduces a peculiar chemical substance which has been obtained by R. Schröter from a bituminous mineral found in sparing quantity near Seefeld, in the Tyrol. Though derived from the distillation of this mineral, ichthyol does not resemble any of the ordinary wood or coal tars. It is a fatty body of the consistence of vaseline, which forms an emulsion with water, mixes with vaseline and oil, is partly soluble in ether, partly in alcohol, and entirely in a mixture of both. It is especially remarkable as containing ten per cent. of sulphur, intimately united to the other ingredients which make up its composition, as carbon, hydrogen, and a minute quantity of phosphorus. Unna has chiefly used ichthyol in eczema. He recommends it to be applied mixed with lard or vaseline in certain proportions, beginning with a stronger, and, as cure proceeds, lessening the amount of ichthyol in the salve. The firmer and sounder the condition of the epidermis, the larger should the proportion of ichthyol, as of all sulphur compounds, be. Thus, if in the commencement of treatment good service is rendered by the application for some days of a fifty per cent. ichthyol ointment in papular eczema, or of a twenty per cent. to thirty per cent. ointment in moist eczema, the salve in the former case should be reduced to a twenty per cent. ointment, in the latter to a ten per cent. or a still weaker one. A great advantage which ichthyol possesses over the other substances which contain sulphur is that it can be combined with preparations of lead and mercury without thereby forming a sulphide. A very efficacious ointment, particularly for obstinate eczema of the hands, is composed as follows:—

	Lithargyri,	10·0
	Coque c. aceti,	30·0
	Ad reman.,	20·0
Adde		
	Olei olivæ,	
	Adipis,	āā 10·0
	Ichthyoli,	10·0
M. F. ung.		

A drawback to the use of ichthyol is its peculiar odour, which is, however, not unpleasant.—*Monatshefte für praktische Dermatologie*, December 1882.

THE OLEATES IN SKIN DISEASES.—Shoemaker points out that the oleates must not be considered as mere solutions of the oxides in oleic acid. While the oleic solutions could not have therapeutically presented results different from those of the oxides employed in solution, the oleates themselves present a much different action by being in a chemically readily diffusible state. These salts, while possessing more efficacy at once, are of a stable character very different from the oleic solutions heretofore used, and, by containing less of the expensive oleic acid, are less costly. Wolff of Philadelphia has found the best and most ready mode for preparing oleates to be by the double decomposition of sodium oleates with solutions of neutral salts. The former is prepared by saponifying oleic acid with a solution of sodium hydrate. A solution thereof in eight parts of water is then precipitated by the salt required. This precipitate, washed and dried, yields the oleate.

Oleate of Mercury, used as a 25–50 per cent. ointment, made by mixing the oleate with lard, can be used as a cleanly and active substitute for unguentum hydrargyri in the inunction treatment of syphilis. When mixed with the ointment of the oleate of lead in proportions of one-sixth to one-third, it is very effective in chronic acne and eczema, especially in the fissured variety of the latter so common in the plantar and palmar surfaces.

Oleate of Zinc is a fine pearl-coloured powder, with a soft, soapy feel very much like powdered French chalk. When dusted over a denuded surface it has a stimulating as well as an astringent action. It is *par excellence* the remedy for excessive sweating or in cases of hyperidrosis or osmidrosis. It has relieved and permanently cured some of the most distressing cases suffering from excessive secretion about the feet, in which the epidermis had macerated and peeled away, leaving a tender and exposed skin, and giving rise to a very disagreeable odour. It is most efficacious as a lady's toilet powder, particularly to those who are afflicted with shining faces in summer—seborrhoea oleosa. It is also useful in eczema vesiculosum and in intertrigo. It clings to the skin and does not dust off easily.

Oleate of Copper has been very successful in curing rapidly cases of ringworm both of the head and the body, as an ointment made by mixing it with four to nine parts of vaseline or lard. After the head is washed and the hair cut short, a small piece of the ointment is to be lightly rubbed over the surface, and reapplied night and morning till all traces of the disease have disappeared. The parts should only be washed once in ten or twelve days.

Oleate of Bismuth can only be obtained by first preparing a crystallized bismuth nitrate, dissolving this in glycerine, and decomposing with this mixture the sodium oleate. It is of ointment consistence, and should be used as thus obtained. Pencilled over rosacea, particularly after the parts have been well depleted by punctures with a needle-knife, it acts well in intractable cases. When applied freely over the surface in cracked and sore nipples, it not only soothes, but arrests the dry and excoriated condition of the parts. The oleates so prepared and used possess superior advantages, in particular their deep penetration, their freedom from rancidity, their cleanliness of application, their great economy, only needing to be lightly smeared over the surface in small quantities, and their antiseptic action.—*American Practitioner*, January 1883.

PERISCOPE OF SYPHILOLOGY.

By Francis Cadell, F.R.C.S. Ed.

Strictures of the Urethra situated at or near the Meatus: their Causes, Nature, and Treatment.—In the *Philadelphia Medical Times*, 30th December 1882, Dr Charles L. Mitchell has a communication on this subject. He describes stricture of the urethra as one of the direct consequences of gonorrhœal inflammation. Sir Henry Thompson's view with reference to the situations of stricture is stated, viz., that 67 per cent. of all strictures are situated at the membranous portion, 16 per cent. located between the membranous urethra and within 2½ inches of the meatus, and 17 per cent. either at the meatus or within 2½ inches of this point. The senior Gross differs from this view, in placing the point of greatest frequency in that portion of the urethra situated between the scrotum and head of the penis, and the point of least frequency at or near the meatus. In summing up the measurements of S. W. Gross, Otis, Bevan, and himself, the author finds that out of 756 cases, 418, or 55·4 per cent., were located in the first 2¼ inches; 203, or 26·9 per cent., from 2¼ to 4¼ inches; and 135, or 17·7 per cent., 4¼ to 7¼ inches. If the results of Dr S. W. Gross were left out, the discrepancy from Sir Henry Thompson's measurements becomes still greater. In 583 cases, 369, or 63 per cent., were situated within 2¼ inches of the meatus; and 524, or 90 per cent., were located within 4¼ inches of the meatus. The author explains the discrepancies between the two sets of observers in the following manner:—The old school, represented by Sir Henry Thompson, relied upon post-mortem specimens and the indications afforded during life by explorations made with the steel bougie or sound. The followers of Otis, on the other hand, base their conclusions upon careful measurements during life with accurate diagnostic instruments, such as the urethrometer and bulbous exploratory bougie. From these facts he concludes that strictures at or near the meatus must necessarily comprise the majority of cases brought to the notice of the physician. He then refers to a few points concerning their origin and treatment. He considers that it is not an extravagant statement to assert that out of 100 cases of urethral inflammation in which the discharge lasts over three months, fully 90 or more owe their continuance to an organic stricture of the urethra. In a large number of cases of chronic urethral discharge pronounced by previous medical advisers to be free from stricture, the author has found the trouble to proceed from one or more strictures of large calibre situated either at the meatus or from ¼ inch to 1½ inch back. These strictures were generally linear, and elastic in character, and accompanied by localized patches of granular inflammation. There is also in all these cases great sensitiveness of the membranous and prostatic urethra, producing so much spasm as sometimes to simulate deep organic stricture. As the urine passes through the canal, this slight constriction, offering as it does an impediment to the current, will develop at this point a small amount of friction, the irritation from which is sufficient to keep up the discharge. In the diagnosis of strictures of large calibre, the ordinary conical steel sound is useless, and an elastic acorn-headed bougie recommended, which indicates by the resistance offered to its blunt shoulder the exact location of the stricture. Otis's urethrometer should be used where a contracted meatus prevents the employment of the acorn bougie. The methods of treatment described are as follows:—Gradual dilatation, rapid dilatation, internal urethrotomy, and electrolysis. Gradual dilatation is only of use in stricture of the deeper portions of the canal; rapid dilatation is not much more successful. In elastic strictures, and in cases where the stricture is situated within the limits of the penis, the elastic character of the stricture, or the non-dilatable tissues of the glans, renders the operation impracticable. The author recommends internal urethrotomy as giving the best results in these cases. He devised a small instrument based upon the same principles as the urethrotome of Otis. Messrs Tiemann & Co. of New York constructed the instrument. He has had no experience in electrolysis but, from the brilliant results obtained by Dr Newman of New York in the treatment of narrow and deep-seated strictures, he believes it is well adapted for those of a larger calibre.

The Treatment of Syphilis.—More than forty years ago Dr J. Marion Sims practised in Alabama, near the Creek nation of Indians, where syphilis was then very prevalent, and their medicine men had the reputation of speedily curing it. Their remedies were decoctions of native herbs. One of the principal agents was queen's delight (*Stillingia sylvatica*). Dr M'Dade obtained the formula from a coloured man who had been using it very successfully. Instead of using the formula as he got it, he eliminated the inert substances, and the following is the formula he and his medical friends have been using for many years. "Fluid extract of *Smilax sarsaparilla*, fluid extract of *Stillingia sylvatica* (queen's delight), fluid extract of *Lappa minor* (burdock), fluid extract of *Phytolacca decandra* (poke root), āā ℥ij., tincture of *Xanthoxylum carolinianum* (prickly ash) ℥j. Take a teaspoonful in water three times a day before meals, and gradually increase to table-spoonful doses." The *Stillingia sylvatica* and the *Smilax sarsaparilla* are supposed to be the efficient agents in M'Dade's compound fluid extract. Two severe cases of syphilis are given in detail, to show the powerful curative effects of this compound.—*British Medical Journal*, 10th March 1883.

PERISCOPE OF STATE MEDICINE.

By James Allan Gray, M.D. Edin., F.R.C.P.E.

Examination of Wanklyn's Process.—Mr C. W. Marsh, in a recent paper, has recorded the results of certain experiments made by him on the subject of the ammonia process for water analysis. These results are in confirmation of the view expressed by Remsen, which is to the effect that when free ammonia and albuminoid ammonia are determined by Wanklyn's process, the amounts of the two added together are found to be much smaller than the total ammonia found when the oxidizing mixture is added without previous boiling. Analyses were made of twenty-six samples of waters obtained from various sources (well, cistern, canal, distilled, spring, surface), the estimation of free and albuminoid ammonia being made as Wanklyn directs. In one case only did the sum of the free and albuminoid ammonia exceed the total ammonia, and this result the author attributes to error from the high colour of the solution Nesslerized. In three cases the amounts were identical, owing to the fact that no volatile nitrogenous substances escaped during the distillation part of the process. In the remaining twenty-two the sum of the free and albuminoid ammonia was less than the total ammonia. This of course points to the probability of some volatile substance escaping conversion into ammonia; and from a series of experiments undertaken to determine the nature of this substance Mr Marsh concludes that it is a condensable nitrogenous organic compound, which passes over and is condensed along with the "free" ammonia distillate. That this is so is shown by the fact that when, as in the experiments just mentioned, the "free" ammonia distillate· is redistilled with potassium permanganate, the free ammonia is obtained plus the ammonia produced by the decomposition of the nitrogenous compound.—*Chemical News*, 1883, pp. 19, 20, quoted in *Journ. of Chem. Society*, April 1883, p. 514.

ACTION OF DISINFECTANTS ON TUBERCULAR MATERIAL.—Dr Vallin read before the Académie de Médecine a paper on this subject, wherein he gave the results of experiments made by him for the purpose of determining in what measure the inoculability of tubercle is modified by the previous exposure of the tubercular material to reputed disinfectants. Fragments of pulmonary tissue infiltrated with tubercle were taken from the body of a man who had died of phthisis. These were crushed in distilled water, and 50 centigrammes of the filtered liquid were injected into the peritoneal cavity of a guinea-pig. No local reaction followed, but after several weeks the animal commenced to pine, and towards the end of the third month was found dead. The liver, spleen, and lungs were stuffed with granulations and gray masses, constantly transmissible by inoculation, and it is the tubercular matter thus obtained by artificial reproduction which Dr Vallin has employed in his experiments. Fragments of the organs just mentioned were crushed in distilled water, and the solution so got was used to impregnate a filter-paper, which was then dried for twenty-four hours under a cover, and on the following day cut into strips of equal size. The strips intended for the control experiments were moistened with a small quantity of pure water, and the liquid expressed from them was on the 1st August injected in 50 centigramme doses into the peritoneal cavity of two healthy guinea-pigs. One of these were found dead on the 16th October, in a very emaciated condition of body; the other was killed on the 10th November (101st day). In both there was every evidence of extensive tuberculosis. The other strips were submitted to the action of different disinfectants, *e.g.*, sulphurous acid, corrosive sublimate, nitrous vapour, etc., before being used for inoculation. The sulphur fumigation was conducted in a chamber of 50 cubic metres capacity, in which the strips were suspended free at 2 metres from the ground. The quantity of sulphur burnt was equally distributed between four fires, the shutting up of the chamber perfect, and the exposure to the disinfectant vapours twenty-four hours. Animals inoculated from strips of filter-paper treated in this way all remained free from tubercular disease if the disinfection was done with sulphur in doses of 30 to 40 grammes. If only 20 grammes were used the result was not constant, for in one experiment where the fumigation was done with this amount one of the animals inoculated from the strip was unharmed by the inoculation, but the other had extensive tuberculosis of its abdominal organs. Where only 15 grammes were used the inoculated animal was found to be tubercular in the highest degree; and when the quantity of sulphur burnt was less than 20 grammes the result was the same—death of the inoculated animal in the highest degree of tubercular infection. Experiments were then made with other disinfectants. Water appears to have the property of destroying the germs, for if the strip of paper be disinfected with water the inoculated animal remains in good health. Corrosive sublimate in solution of 1 part in 1000 appeared to have the same effect, as did also nitrous vapours. The general conclusion from these experiments is that it will be well to use sulphur fumigations once a year in the prisons, barracks, hospitals, and schools.—*Tribune Médicale and Journal de Pharmacie,* March 1883, p. 221.

TREATMENT OF ATROPIA POISONING BY PILOCARPINE.—Dr Ludw. Juhász of Buda-Pest republishes (*Monbl. für Ahkde.*, xx. p. 82, March 1882) a case of atropia poisoning in which pilocarpine was employed as an antidote. The case appeared originally in the *Orvosi Hetilap,* 52, 1879, and was one of earliest recorded instances in which pilocarpine had been used in that capacity. After giving a brief *résumé* of the case, Dr Juhász calls attention to three similar cases (one fatal, two non-fatal) related by Dr Ludw. Jos. Kanders of Vienna, and takes the opportunity of examining into some of the observations made by Dr Kanders. In these remarks Dr Juhász points out first of all, as especially worthy of notice, the favourable ending of the case in spite of the enormously large quantity of atropia swallowed (10 to 11 centigrammes, = rather over 1½ grains). Then he calls attention to the fact that in his case, as distinguished from those of Dr Kanders, the symptoms of poisoning appeared very quickly after the taking of the poison. A delay in the appearance of the symptoms can, according to Juhász, only take place in cases in which there is a smaller quantity of the poison concerned, and that the delay in the appearance of the symptoms of poisoning appears to stand in direct relationship to the quantity of the poison taken. That in Juhász's case no coma occurred is the result of the timely use of the pilocarpine injection. According to Kanders, the dose of pilocarpine to be employed should vary with the severity of the atropia poisoning, from 1 to 3 centigrammes ($\frac{1}{6}$ to

$\frac{1}{20}$ grain) for a dose, and the injection should be repeated, at intervals of 30 to 35 minutes, either until the physiological action of the pilocarpine appears or until the total quantity is so great that with further increase no further effect need be expected. The first appearance of the influence is the sinking of the pulse-frequency, which in most cases will be followed by a decrease in other appearances. During the departure of the other symptoms it is wise to watch the pulse-frequency; and if this, after 2 or 3 hours' time, is still unusually high or is again rising, the injection should be again employed. According to Juhász the injections should follow each other in frequency according to the quantity of atropia taken, even at intervals of only 5 to 10 minutes, until the physiological action of the pilocarpine makes itself observed and the symptoms of the action of atropia have vanished. Juhász indicates that the pilocarpine may be used so long as the total quantity employed does not exceed three times the definitely ascertained quantity of atropia swallowed.—*Schmidt's Jahrbücher*, Band 197, No. 1, p. 16.

Note.—*Vide* Periscope for Dec. 1882, p. 562, where a *résumé* is given of Dr Tanzler's two cases of atropia poisoning treated by pilocarpine.

CASES OF POISONING WITH CARBOLIC ACID.—Dr J. G. Edgren (*Hygica*, xliv., 12 Svenska läkaresällsk. förh., S. 270, 1882) reports a fatal case of poisoning with carbolic acid. The patient, a little girl seven years old, drank a cognac glassful of a mixture of carbolic acid and spirit, which had been mixed together in the proportion of 9 parts of the pure acid to 1 part of the spirit. Shortly thereafter the child was found in an unconscious condition. An hour later she was completely comatose, with slow, irregular respiration, which threatened at every breath to become arrested altogether, with audible rattling in the trachea, and completely abolished reflexes, with a pulse extremely weak but of about normal frequency, and with somewhat dilated, sluggish pupils. After the administration of a warm bath, with alternate cold and hot douches and subsequent warm applications, the respiration became deeper and more regular; but in spite of the use of ether subcutaneously and enemata of sherry the heart became weaker, the extremities cold, and somewhat later the pupils became contracted. The comatose condition lasted until ten hours after the taking of the poison, when death ensued. The temperature was never elevated. The urine, which was drawn off by the catheter, was dark brown and red like carbolic acid. At the post-mortem examination ecchymoses and grayish-white scabs, with injection in their neighbourhood, were found in different places. In the kidneys were to be seen localized swellings of the epithelial and lymph cells, but no other interstitial change. Welander (S. 273) mentions a non-fatal case which had occurred to him, and in which the rather long stage of excitement is worthy of notice.

Wallis remembers a case by Svensson (*Hygiea*, xliv. 10, S. 597, 1882; Arsberättelse fräu Sabbatsbergs sjukhus i Stockholm, f. 1881, S. 201), in which poisoning occurred from the use of a 5 per cent. solution of carbolic acid in the form of spray during a tedious operation for rupture in a boy 18 months old. The patient collapsed quickly, and died twenty-six hours after the operation. The urine gave a bluish violet colour to the bandages, which consisted of a ferruginous boracic acid gauze. On post-mortem examination they found the spleen large, and the heart muscle and liver substance showing the usual symptoms of acute degeneration. The kidneys were fattily degenerated and beginning to break down. In the bladder was found dark albuminous urine. This case much resembles an earlier one recorded by Abelin (*Jahrbüch*, clxxiii. p. 163). The appearance of serious symptoms, due to the absorption from the surface of such a wound and the very quick occurrence of the fatty degeneration, are noteworthy. Further, Psilander (*Hygiea*, xliv. 12, S. 684, 685, 1882) has also recorded two non-fatal cases of poisoning by carbolic acid spray, which occurred during the dressing of operations for empyema. In the first case, which happened to a girl 17 years old, vomiting and dark-coloured albuminous urine appeared on the day after the employment of the spray, and the symptoms of poisoning did not entirely vanish until two weeks later. In the second case, the patient, a boy 7 seven years of age, suffered from vomiting, and had brownish-black urine. The effects of the poison lasted for several days. In both cases the carbolic acid was replaced by boracic acid.—*Schmidt's Jahrbüch*, Band 197, No. 1, p. 17, 1883.

Part Fifth.

MEDICAL NEWS.

Royal College of Surgeons, Edinburgh.—The following gentleman passed his final examination for the qualification in Surgery at the sitting held on the 30th March 1883, and was admitted L.R.C.S. Ed.:—David Prain, Royal Infirmary, Aberdeen.

Royal College of Physicians, Edinburgh.—The following gentlemen passed their final examination for the qualification in Medicine on 4th April 1883, and were admitted L.R.C.P. Ed.:—Frederick John Lilly, Southampton; Richard Reece Hardwicke, Derby; Pynsent Condiman Smith, Woburn, Beds.

Royal Colleges of Physicians and Surgeons, Edinburgh.—The following gentlemen passed their final examination for the *double* qualification in Medicine and Surgery at the sittings held on the 5th April 1883, and were admitted L.R.C.P. Ed. and L.R.C.S. Ed. :—Thomas Leslie Crooke, Royal Infirmary, Edinburgh; James Albert Hunter, London; Matthew Henry Gardiner, Edinburgh; John Small, Cupar-Fife; Percy Howard Day, Bristol; Robert Greenwood Dempster, Liverpool; Walter Frederick Clark, Yorkshire; Hugh Gough Haines, Edinburgh; Karl Wingvist, Johannelund, Stockholm; Edwin Alfred Cormack, Edinburgh; Thomas Young, Birmingham; William Patterson, Oldham; Arthur Ernst Marsack, Edinburgh; Tom Bairstow, Edinburgh; William Henry O'Meara, Limerick.

University of Edinburgh—First Professional Examination.—The following is the official list of those gentlemen who have passed the first professional examination this month :—A. R. Aldridge, J. A. Armitage, W. S. Armitage, J. W. Astles, O. R. Bain, G. A. Ballingall, W. H. Bansall, H. L. Barker, A. A. Bartholomew, Victor Black, G. M. Brown, James Brown, J. H. Bruce, W. J. Cameron, J. M. Campbell, J. J. Carson, R. L. Caunter, W. W. Chamberlain, P. P. Chetti, W. S. Counsell, William Craig, A. J. Cross, F. E. Crossley, J. E. Davies, H. G. Dickman, Arthur Drury, Thomas Edwards, William Elder, L. G. Fischer, Alexander Fisher, T. H. Fiske, H. S. R. Freeborn, G. V. Gilray, T. P. Gray (with distinction), J. A. Guthrie, F. J. Hart, J. T. Harvey, T. H. Hayton, F. W. Hennessy, J. R. Hill, Robert Howden, Samuel Hughes, C. W. Hunter, W. H. M. Ingham, G. L. Jenkins, E. J. Jennings, F. M. Johnson, J. J. Johnson, S. G. Kinloch, J. A. Kynoch, R. F. C. Leith, H. H. Littlejohn, Thos. MacDonald, Thos. MacGregor, C. R. M'Guffie, T. M. Macknight, C. J. R. M'Lean, G. H. Mason, C. H. Melville, W. F. Menzies, S. H. Merryweather, A. van der Merwe, R. H. Mitchell, W. G. Mitchell, Wm. Murphy, Glenmore Ozanne, F. G. Phillippo, E. E. Pringle, G. F. Rhodes, J. K. Robinson, Robert Robinson, J. G. da Rocha, Tennent Ronalds, J. R. H. Ross, D. H. Scott, K. M. Scott, F. R. Shepherd, A. W. Shields, R. B. Simmins, J. L. M. Smith, C. E. Southwell, W. C. Spiller, A. J. M. Stenhouse, K. T. Stewart, R. C. Strode, James Strother, G. A. Sutherland, W. H. Sutherland, J. W. Talent, Inglis Taylor, William Evans Thomas, A. E. Thomson, J. K. Tomory, W. H. Turton, W. J. Visser, Henry Ware, Duncan Watters, J. A. Wetherell, J. H. Whiteside, J. C. Williams, James Wilson, W. C. Wilson, Andrew Young.

Original Research in Sanitary Science.—Original workers will be glad to learn that they have found friends in the Grocers' Company, who have just announced a scheme for the encouragement of original research in sanitary science. The scheme consists of two forms of endowment: the one meant as maintenance for work in progress, in fields of research to be chosen by the worker himself, and towards this end the Company establishes three research scholarships, each of £250 a year; the other meant as reward for actual discovery in fields of research to be specified from time to time by the Company, and towards which it appoints a discovery prize of £1000, to be given once in every four years. The scholarships, which are each for one year, but with the holder eligible for reappointment, are open to British subjects, who, when competing for a first appointment, must be under the age of 35 years. To two of these scholarships appointments will be made in May 1883; to the third in May 1884, after which the vacancies will be filled up in each succeeding May. The discovery prize is open to universal competition, irrespective of the nationality or age of the candidate, and irrespective of the previous publication or not of the treatise sent in for competition, provided always that the treatise be published for the first time within the allowed period between the announcement of the subject for competition and the end of the fourth subsequent December. The subject for the first prize will be announced in May 1883, and the period allowed for the competition will end on the 31st December 1887. All the treatises sent in must be in print, in the English language, and must bear the name of the author.

In connexion with the forthcoming Hygienical Exhibition in Berlin, we have been requested to draw attention to the Policlinical Institution in that town, where monthly courses, beginning on the first of each month, are given on the various medical specialties. The Institution and the courses are founded and conducted on the same principles as those of the Vienna Policlinique.

INTERNAL ŒSOPHAGOTOMY.—Dr Roe of Rochester, N.Y., sums up an extended and able article on this subject in the *New York Medical Record* with the following deductions, after quoting thirteen cases reported by different surgeons:—The operation is established as justifiable. It is safer than external œsophagotomy or gastrotomy. It requires great skill and dexterity, for its careless performance would lead to serious consequences. It is applicable to stricture (non-malignant) in every region of the œsophagus. It should be undertaken only when simple dilatation has failed, but does not dispense with the use of the sound. It is inadmissible in strictures through which an opening cannot be found. Success in this operation means permanent relief to the patient, and cure of the stricture.

The Management of Chronic Inebriates and Insane Drunkards is the title of a pamphlet by Dr Blodgett of Boston, U.S.A., in which is pointed out the entire absence that exists of provision for the proper treatment and cure of those who have become slaves to alcohol. If this can be said of America, it is more conspicuously true of this country. What have our legislators done for this class of sufferers? They spend months and years fighting about supposed Irish wrongs and grievances. When the medical profession tries to provide some remedy, they ruin a bill that might have done some good. But what do they propose to do instead? Dr Blodgett points out a way in which not only the inebriates, but also the general community, may be benefited. At present, drunkards can be treated only in a lunatic asylum, which is not a fit place for them, and they are not qualified for it. Moreover, wherever they are put, they must be maintained by their friends or by the public. Our author's suggestion is, that they should be properly separated from the possibility of alcoholic indulgence, and obliged to maintain themselves by honest labour. The reclaiming of waste lands or the building of harbours would be very useful and appropriate ways of utilizing such labour. Besides, employment is a specially necessary part of the treatment of inebriates. There can be nothing worse for them than to be idle. Experience has proved this. It is want of occupation that often gives a start to habits of drinking. Dr Blodgett's proposal has two aims :—" 1. Their own improvement and final recovery in a much larger proportion of cases than under our present treatment of drunkards (in the American retreats). 2. They would, as a class, become self-supporting, instead of becoming and remaining the subjects of public maintenance."

MR JAMES E. KELLY, Surgeon to the Jervis Street Hospital, Dublin, suggests new methods of reducing dislocations of the shoulder and hip. The treatment of the latter by manipulation is so satisfactory that we believe no room is left for new methods. At any rate, Mr Kelly's is not by any means an improvement, as far as we can see. His proposal for reducing a shoulder dislocation, however, is decidedly ingenious and likely to be useful. He places the patient at the edge of a bed, himself close to the patient, with his trochanter pressed into the axilla, and the patient's arm round his waist. Then, with a sudden turn of his body and push of the trochanter, the head of the humerus is levered into its proper place. The manœuvre is recommended as being specially applicable in cases where chloroform cannot be given or is not at hand. Possibly its efficacy depends on its taking patients at unawares.

THE connexion between insanity and alcoholism and between insanity and crime have of late been frequently brought before us. Dr Wright of Bellefontaine, Ohio, in the *Detroit Lancet*, brings forward the connexion between alcoholism and crime. He says, " Our object is to show how alcohol may so modify, and change, and debase the moral nature of man as not only to fit him for a life of criminality, but absolutely to impose it upon him." He quotes Professor Laycock's saying that "nearly all criminals are morally imbecile." Taking for granted a moral depravity in criminals, he shows how alcohol may cause this. Indeed, his work is not difficult. It cannot be denied that intemperance is common, if not constant, among criminals. It is most likely, if not absolutely certain, that the habit is acquired early in life. We know that even among educated and moral persons the acquisition of habits of intemperance produces moral depravity, or obliquity, as it is sometimes called. It is easy to see, therefore, that alcoholic indulgence, at the very least, assists in the manufacture of criminals. A natural deduction from this is, that one of the best ways to reduce crime, if not to prevent it, will be to diminish the facilities for the consumption of alcohol. Medical men have been placing such statements as these before the public for years. The truth of them can be tested. Our everyday experience does not refute them. It is strange that our civic authorities still maintain the greatest facilities for alcoholic indulgence where there is most crime and where they are most likely to do harm. The connexion that exists (almost invariably) between drink and crime has come out in those fearful atrocities that have disgraced Ireland. It is remarkable how prominently the public house comes forward in evidence; it seems so frequently to play the part of half-way-house to murder. Might not Government, while suppressing the Land League, suppress the public houses also? Were they to do so, we could promise them a vast improvement in the condition of Ireland, morally and every way.

RESECTION OF THE LONG BONES.—In a recent number of the *Indian Medical Gazette* is an interesting paper by Dr Arthur Neve, medical missionary at Cashmir, in which he reports three cases of successful resection of the radius (one case) and tibia (two cases). Dr Neve was an Edinburgh student, and it is very satisfactory to see our graduates distinguishing themselves even in the wilds of Central Asia. Dr Neve, in remarking on his cases, states that the patients were all in a state of extreme exhaustion from long suppuration, and that there was little or no effort at production of new bone before the operation, while, after operation, in a very short time suppuration ceased, health began to improve, and new bone was quickly formed. The patients returned home cured in from one to three months after the operation.

THE PHYSIOLOGY OF PLASTIC SURGERY, by Edward H. Bennett, M.D., Professor of Surgery in the University of Dublin.—The period that elapses before sensation returns to the flap of skin removed from the forehead in the Indian operation for the formation of a new nose is stated by Dr Bennett, in the *Dublin Journal of Medical Science*, to be as follows:—After the flap has been placed in position it is devoid of sensation for over a week. Between the tenth and fourteenth days sensation returns suddenly but imperfectly. Section of the neck of the flap in no way influences the sensation. Time does not seem to improve the powers of sensibility. In one of Dr Bennett's patients sensation was the same after four years as it had been fourteen days after the operation.

PROFESSOR BENNETT also gives the result of his experience in a number of cases of fracture of the metacarpal bones. 1. The bones most frequently injured are the index and little finger of the right hand. 2. The most common form of fracture, calculated from hospital experience and post-mortem investigations, is one hitherto undescribed. "The fracture passes obliquely through the base of the bone, detaching the greater part of the articular facette with that piece of the bone supporting it which projects into the palm." The amount of displacement is trivial, and the portion displaced is the larger, not the smaller fragment. The fracture, therefore, closely simulates a dislocation backwards. This form of fracture occurring in the thumb is apt to cause impairment of motion afterwards, the joint, of course, being implicated. In the thumb, therefore, this injury requires careful treatment.

We have received the first volume of the descriptive catalogue of the Royal College of Surgeons, prepared by Sir James Paget, with the assistance of Dr Goodhart and Mr Doran. The preparations described are about 550 in number, and all refer to general pathology. The pathological subjects are, hypertrophy, atrophy, repair and reproduction, inflammation, mortification, and tumours. This catalogue is a remarkable production, being not only a list and general description of specimens, but in itself a most important and valuable pathological work. There are copious and interesting extracts from Hunter's writings. There are also various specimens of pathological actions and conditions from plants and the lower animals, as well as from human beings. Altogether the book is one containing much interesting material, and of value to all as a work of reference, even though they may not have access to the preparations themselves.

Dr K. M'Leod, F.R.C.S.E., Professor of Surgery at Calcutta, publishes a clinical lecture, in which he describes what he terms the direct operation for the radical cure of hernia. Ligature of the neck of the hernial sec has now been established as the best and most certain method of treatment for ordinary inguinal and femoral herniæ. There is no doubt the operation has its difficulties, especially when the sac is adherent to the coverings. Besides, it is inapplicable to congenital herniæ. But as it has been practised here with various modifications it has been very successful. Dr M'Leod's lecture appears in the *Indian Medical Gazette.* It gives a very clear and able demonstration of the operation.

The *Midland Medical Miscellany* has this year started in a new form. The first number of the series opens with a biographical notice of Sir Erasmus Wilson. The readers are also favoured with an excellent portrait of that eminent member of our profession. There is very little in the way of contributions to the literature of medicine or surgery in the *Miscellany.* The most important original article is the first part of a long-winded paper on "Medical Means of Counteracting Opium-smoking in China," by Dr Shearer of Liverpool. Dr Shearer occupies ten columns of the *Miscellany* (mainly with foot-notes) without reaching the "medical means." He gives us, however, much valuable information on various points connected with opium and opium-smoking. He tells us that he has lived for six and a half years in China, and therefore his opinion is of some weight. He unhesitatingly condemns the practice of opium-smoking, chewing, etc., as injurious morally and every way, and further condemns our national connexion with the opium trade between India and China. Perhaps the most useful part of the *Miscellany* is a section given to descriptions of new medicines, and another to a "Retrospect," something similar to our own "Periscope." We wish our cotemporary all success.

PUBLICATIONS RECEIVED.

Harrison Allen, M.D.,—A System of Human Anatomy. Sections I., II., III. Henry Kimpton, Lond., 1883.
Alberto B. Bach,—On Musical Education and Vocal Culture. Wm. Blackwood & Sons, Edin., 1883.
Robert Barnes, M.D.,—Synoptical Guide to the Study of Obstetrics. Smith, Elder, & Co., Lond., 1883.
Dr Maximilian Bresgen,—Der Chronische Nasen- und Rachen-Katarrh. Urban & Schwarzenberg, Wien, 1883.
Albert P. Brubaker, M.D.,—A Compend of Human Physiology. Henry Kimpton, Lond., 1883.
James Cantlie, M.A., and Daniel Colquhoun, M.D., — Meade's Manual for Students Preparing for Medical Examination. Henry Renshaw, Lond., 1883.
George Cowell, F.R.C.S.,—Lectures on Cataract. Macmillan & Co., Lond., 1883.
J. Matthews Duncan, M.D., etc.,—Clinical Lectures on the Diseases of Women. J. & A. Churchill, Lond., 1883.
J. Milner Fothergill, M.D.,—Gout in its Protean Aspects. H. K. Lewis, Lond., 1883.
Samuel Gee, M.D.,—Auscultation and Percussion. Smith, Elder, & Co., Lond., 1883.
Prof. D. J. Hamilton,—On the Pathology of Bronchitis, etc. Macmillan & Co., Lond., 1883.
Alex. Harvey, M.D., and Alex. D. Davidson, M.D.,—Syllabus of Materia Medica. H. K. Lewis, Lond., 1883.
Health Lectures for the People. Third Series. Macniven & Wallace, Edin., 1883.
Christopher Heath, F.R.C.S., — The Student's Guide to Surgical Diagnosis. J. & A. Churchill, Lond., 1883.
Prof. Berkeley Hill, and Arthur Cooper, —The Student's Manual of Venereal Diseases. Smith, Elder, & Co., Lond., 1883.
Dan. E. Hughes, M.D.,—A Compend of the Practice of Medicine. Henry Kimpton, Lond., 1883.
Illustrated Medicine and Surgery. Vol. II., No. 1. E. B. Treat, New York, 1883.
C. E. Jennings, L.R.C.P.,—Transfusion: its History, Indications, and Modes of Application. Baillière, Tindall, & Cox, Lond., 1883.
D. Knight,—Morphology of the Vertebrata. Part I. Young J. Pentland, Edin., 1883.
S. Laache,—Die Anamie. Die Mallingsche Buchdruckerei, Christiania. 1883.
Henry G. Landis, A.M., M.D.,—A Compend of Obstetrics. Henry Kimpton, Lond., 1883.
D. M'Alpine, F.C.S.,—Botanical Atlas. Parts XII., XIII. W. & A. K. Johnston, Edin., 1883.
D. M'Alpine, F.C.S.,—Practical Lessons in Elementary Physiology and Physiological Anatomy. Baillière, Tindall, & Cox, Lond., 1883.
A. Cowley Malley, B.A., etc.,—Micro-Photography. H. K. Lewis, Lond., 1883.
Mechanical Exercise a Means of Cure. J. & A. Churchill, Lond., 1883.
A. Stanford Morton, M.B., etc.,—Refraction of the Eye. H. K. Lewis, Lond., 1883.
William Murrell, M.D.,—What to do in Cases of Poisoning. H. K. Lewis, Lond., 1883.
Isambard Owen, M.D.,—The Treatment of Acute Rheumatism. J. & A. Churchill, Lond., 1883.
Samuel O. L. Potter, M.A., M.D.,—Questions on Human Anatomy. Henry Kimpton, Lond., 1883.
Henry Sewill,—Student's Guide to Dental Anatomy and Surgery. J. & A. Churchill, Lond., 1883.
Sir Henry Thompson,—Clinical Lectures on Diseases of the Urinary Organs. J. & A. Churchill, Lond., 1883.
Wm. Thomson, M.A., etc.,—On Ligature of the Arteria Innominata for Subclavian Aneurism. Fannin & Co., Dublin, 1883.
Transactions of the American Ophthalmological Society, 18th Annual Meeting.
Transactions of the Medical Society of the State of Pennsylvania. Vol. XIV.
Transactions of the Obstetrical Society of London. Vol. XXIV. Longmans, Green, & Co., Lond., 1883.
T. Spencer Wells,—The Hunterian Oration, 1883. J. & A. Churchill, Lond., 1883.
Samuel West, M.D.,—How to Examine the Chest. J. & A. Churchill, Lond., 1883.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Senile Insanity.* By T. S. CLOUSTON, M.D.

THE psychology of normal old age has yet to be written from the purely physiological and brain point of view. Poets, dramatists, and novelists have had much to say of it from their standpoint. King Lear is beyond a doubt a truthful delineation of senility, partly normal and partly abnormal. By normal senility I mean the purely physiological abatement and decay in the mental function running *pari passu* with the lessening of energy in all the other functions of the organism at the latter end of life. No doubt, in an organism with no special hereditary weaknesses, and that had been subject to no special strains, all the functions except the reproductive should decline gradually and all together, and death would take place, not by disease in any proper sense, but through general physiological extinction. The great function and *nisus* of reproduction stands in a different position from all the other functions of the organism. It arises differently, it ceases differently, and it is more affected by the sex of the individual than any other function. It is, as a matter of fact, not entirely dependent on individual organs. It may exist as a *nisus* and an instinct without testes, or ovaries, or sexual organs. It is really an essential, all-pervading quality of the whole organism, and to some extent of every individual organ, not one of which has entirely lost the primordial fissiparous tendency to multiply. But the physiological period of the climacteric has determined and ended it in its intensity and greatest power, though many of its adjuncts remain, and in the male sex we have to reckon with it and its abnormal transformations to some extent even in the senile period of life.

Physiological senility typically means no reproductive power, immensely lessened affective faculty, diminished power of attention and memory, diminished desire and power to energize mentally and bodily, lowered imagination and enthusiasm, and lessened adaptability to change, greater slowness of mental action, slower and less vigorous speech as well as ideation, fewer blood corpuscles red and white, lessened power of nutrition in all the tissues, a tendency to disease of the arteries, a lessening in bulk of the whole body, but notably of the brain, which alters structurally and chemically in its most essential elements, the cellular action and the nerve currents being slower, or there being more resistance along the conducting fibres.

In the young man there is an organic craving for action, which not being gratified there results organic pain; in the old man there is an organic craving for rest, and not to gratify that causes organic uneasiness.

The three great dangers to normal mental senility are hereditary brain weakness, a diseased vascular system, and the after effects of over-exertion or abnormal disturbance of brain function at former periods of life, leaving the convolutions weakened. The hereditary predisposition to mental disease that has not shown itself till after 60 must no doubt have been slight or well counteracted in the conditions of life, yet in many brains it never shows itself till then. Until the organ had begun physiologically to lose its structural perfection and its dynamical force, the pathological phenomenon that we call mental disease was not developed. As we shall see from a statistical study of clinical cases, heredity to insanity was less common in the cases of senile insanity than in any other form of mental disease except general paralysis; but there is this fallacy, the facts about heredity are further back and more forgotten in this than in any other form. An old man's living relatives are few and his ancestors' history far off. We may put it down as a certain law of nervous heredity that the stronger the predisposition the sooner it manifests itself in life, and the weaker it is the later in life it shows itself. To have survived, therefore, the changes and chances, the crises and perils of life with intact mental function till after 60, means slight neurotic heredity or great absence of exciting causes of disease.

It is impossible to fix an age at which physiological senility begins, and therefore we cannot fix an age for senile insanity. Some men are older at 50 than others are at 70. I believe that in some cases neurotic heredity assumes the special outcome of early senility—that is, of early wear-out or poor organic staying power. Most congenital imbeciles and idiots grow old soon. Very many races of men grow old early, like the Kalmucs and Hottentots; but, roughly speaking, in our race one cannot call a man old till he is 60, though I have often met with senile mental symptoms between 50 and 60, and, as we know, atheromatous arteries and consequent tissue degenerations are common enough before then. But in speaking of senile insanity I shall include no one under 60 years of age.

It is, of course, a well-known fact that mental disease, speaking generally, is a disease of middle and advanced life rather than of youth. Of the general population under 20 a very small percentage become insane. Only 0·9 per 10,000 of the general population under that age are sent to asylums in a year in England

and Wales, while 11·4 per 10,000 over 60 are so sent, or about twelve times the proportion.

The best foundation for what I have to say of senile insanity will be the chief statistical and clinical facts recorded about 203 cases (71 males and 132 females) that have been classified under that heading in the nine years' admissions to the Royal Edinburgh Asylum, 1874–82. The total number of patients admitted in that time was 3145, and they were of all classes, from the sons of peers of the realm down to the lowest beggar. Of these, 304, or 9·6 per cent., were over 60 years of age. One remembers this better by calling the proportion one-tenth over 60. But of those 304 cases only 203 were called by me senile insanity. The other 101 were mostly epileptics, old cases of long-existing mania or dementia, or cases of climacteric insanity — that is, old age had acted as a predisposing or exciting cause of the mental disease, and the symptoms were more or less characteristic of senility in those 203 cases only. Six and a third per cent. of the whole admissions, or one-sixteenth of them, were thus cases of senile insanity. It is, therefore, a common, but not the most common, form of insanity, as compared with the other clinical varieties of mental disease.

The great predisposing cause of insanity, heredity, appeared to be, as I said, very uncommon. Only 26 of the cases, or 13 per cent., were so affected. In estimating the frequency of heredity in mental disease one has to add an enormous margin for ignorance and conscious or unconscious concealment of facts. Taking the ordinary admissions to a mixed asylum like Morningside, one may safely double the proportion stated in the papers, or otherwise ascertained, to be hereditary. In the nine years under review, 723 of the whole 3145 cases, or 23 per cent., were ascertained to be hereditary. The senile heredity, therefore, was little more than half the ordinary average heredity.

The form assumed by the different cases is a question of great interest. I confess I was myself astonished at the immense variety of mental symptoms present. Till I had these 203 cases analyzed I had not fully realized either the character or the results of treatment of the disease. Looking first at the presence or absence of mental depression or mental pain, I find that 69 of these cases, or about a third, were depressed, and classified by me symptomatologically as labouring under melancholia. To feel pain, mental or bodily, the brain ordinarily needs to be to a certain extent sensitive and active functionally. But the peculiarity of many of the cases of senile insanity was, that the mental depression was merely outward in muscular expression, not being *felt* in any proper subjective sense, and was certainly not remembered. It was, in fact, automatic motor misery, and not conscious, sensitive mental pain. One of the cases now under my care illustrates this very well,— A. B., æt. 82 now. His mental power has been failing for three or four years. At first there was failure of memory, irritability, exaggerated opinions of himself, morbid suspicions, sleeplessness, restlessness, and difficulty of control. These symptoms gradually got worse, until his memory was quite gone, and he did not know his age, or his wife, or his home. Yet his appetite was good, his health in some respects better than it had been before, for a gouty tendency had disappeared. He looked fresh and well, and his muscular strength in spurts was very great indeed. He had, a year or so after the beginning of the attack, a sort of hemiplegic attack, transient and slight, and ever since it began, and going along with it as one of the symptoms of the disease, there was a slight indistinctness of speech, a want of motor activity and perfect co-ordination in the articulatory muscles, a change in the tone of the voice in the direction of feebleness, a difficulty in finding words, a tendency to stop in the middle of sentences, an omission of words, especially nouns—in fact, the typical senile speech, with its mixture of aphasic, amnesic, and paretic symptoms. The senile speech I look on as just as characteristic as the aphasic, the general paralytic, or the hemiplegic speech, and just as illustrative of brain function. He had all the signs of advanced atheroma of his vessels.

I shall next take him about the middle period of his disease, and describe his mental symptoms. His memory was quite gone for recent things, and you could scarcely engage his attention for more than a few seconds on any one subject. At times, in fact mostly, he showed a kind of happy negative contentment. If you could get the thread of his old life, he would tell old stories, make speeches, and look as wise as possible; but all this time he did not know who you were, or where he was, or the day of the week, or the month, or the year, or what he had for dinner. Then suddenly, without any outward cause, a change would come over him. He would look most miserable, would moan, and groan, and weep (tearlessly), wring his hands, uttering disjointed exclamations of sorrow; but he could not tell you what grieved him, and in a minute or two he might be quite cheerful and remembered nothing about it, denying that he was at all dull or ever had been so. Or he would at times suddenly, causelessly, become most suicidal, trying to strangle himself, running his head against the wall, or clutching his throat with his hands. In that condition you could not rouse his attention. He was, in fact, practically unconscious, and when controlled or prevented carrying out his suicidal attempts he would struggle and resist desperately and absolutely unreasoningly. At other times he would have sudden homicidal attacks. But in half an hour after all this he would be calm, chatty, and utterly oblivious of everything that had occurred. The whole thing, in fact, the pain, the suicidal and the homicidal impulses, were so many automatic acts unaccompanied by motive, reason, or remembrance, and were the mere motor signs of some organic discomfort. All his worst symptoms used to come on at night, when he would become noisy, restless, shouting, resisting, and quite unmanageable, alarming the household and neighbourhood. The continuance of those symptoms wore out every one connected with him. Of all forms of insanity, the senile is apt to become most aggravated at night. It might be supposed that there would scarcely be any conceivable circumstances under which a man of that age, with means enough to procure proper attendance, would have to be sent from his own home. Yet those circumstances occurred. Home treatment was a failure, and could not be any longer persisted in. Certainly he did better in a villa in the country, with plenty of fresh air and regulated exercise, "little and often," regularity of life, lots of milk and eggs and digestible, plain food, and good skilled attendance, getting fat and sleeping far better. But of course he slowly got more enfeebled in mind; his suicidal impulses became less intense, his noise at night less, and his resistiveness more controllable, but his motor restlessness remained. All his symptoms were irregularly periodic and remissional. For months he would be quiet, and then would have a few weeks of motor excitement, and night noise, and impulsiveness. What is the cause of these aggravations in senile cases, and they are very common, almost universal? I really do not know. I presume one must look on them as being partly mere action and reaction, activity and exhaustion simply. In such a case we can have no reproductive periodicity to deal with.

It is very difficult to know how to classify such a case symptomatologically. There is undoubted demèntia, and there is maniacal excitement. There are all the outward signs of suicidal melancholia, and there are the symptoms of true impulsive insanity. I adopt the rule that wherever there is marked mental pain, or the outward signs of it, the case is put down as melancholia in our books. This case is a typical example of pure senile insanity of the melancholic type. But many of the cases of senile insanity classified symptomatologically as melancholia were entirely different from this case. Several of them were cases of simple melancholia that proved to be transient, its only special senile character being that it occurred in old people, was accompanied by more loss of memory than usual, and the recovery it ended in had somewhat of normal senility in it. Several of the cases were caused proximately by bodily diseases that exhausted the strength or lessened the blood-corpuscles, or by moral causes. It is quite common in my experience, and, I believe, in that of all medical practitioners, to find certain old persons depressed in mind by any bodily disease. Notably I have seen this happen in the course of bronchitic or heart troubles, where the blood was not aerated. In fact, given a senile brain, atheromatous arteries, and non-aerated blood, and we are pretty certain to have the mental functions of the brain affected. I am in the habit of speaking loosely of "cyanotic delirium" and "cyanotic insanity" from the non-oxygenation of the blood in bronchitic and cardiac disease. Others of my cases of senile melancholia had fixed melancholic delusions. Very intense suicidal feelings were rare, and very determined attempts still more rare, but we cannot depend on this rule in all cases. Of the 67 melancholic cases, 17 were acute in symptoms, and 50 were mild.

Of the cases that were melancholic, 30 per cent. were discharged as technically "recovered,"—that is, in all of them their worst mental symptoms disappeared, and they reverted to normal senility, and in many cases they became quite well in an absolute sense. In the melancholic cases, speaking generally, the recoveries were apt to be better than in any other class of senile cases, as in the following case:—

A. C., æt. 77, a man of a reserved disposition and steady and temperate habits. There was no known heredity to insanity. He had never had any disposition to depression of mind before. He had done his modest work in life well; had brought up a healthy and well-doing family, and was an intelligent, religious man. His business was not prospering well, and he became depressed and restless. He imagined he was eternally lost, that the diminution of his business was a direct judgment of God for his sins. This in religious people, and in irreligious ones too, is a very common melancholic delusion, and the public will always have it that any kind of religious delusion or insanity about religion is a very bad symptom in any case, and necessarily incurable. Now there is little truth in this. The idea has arisen, no doubt, from the fact that the cases with fixed delusions of a religious kind—the prophets of the Lord, the sons of God, the possessed with a devil—are usually incurable, and such cases make a very strong impression on the public mind. A. C. gradually got worse, and talked of committing suicide by throwing himself over the North Bridge—a most fearfully suggestive and then low-parapeted place. After eighteen months of depression at home, he got so bad that he was sent to the Asylum. On admission he was depressed, restless, unsettled, and talkative, with religious delusions. He looked an old man, with atheromatous arteries, and there was senile cataract and marked heart disease, but his appetite was good, and his general nutrition and strength very fair for his age. He did not sleep well at first. He was ordered Parrish's syrup of the phosphates, cod-liver oil, with milk diet, and fresh air when the weather was suitable. There was a hypochondriacal character about his mental depression all the time. In about two months he had strengthened and improved. He became more obviously concerned about the state of his bowels than that of his soul. He was one of the melancholics—a numerous array—who heard "the clock strike every hour by night." In about nine months he was almost free from the mental depression, and his memory had got better, while he looked quite ruddy and hale. In a year he was really quite well, and was sent to his home just as cheerful and more active than the average man of 78, came out to see us for three years after, in no respect the worse, mentally or physically, for his interlude of two and a half years of senile depression and insanity, and died peacefully at home in his 84th year.

Turning now to the cases that showed no melancholic symptoms, or, at all events, where such symptoms were not long-continued or prevailing, there were 134 of these; and as they all had some sort of motor excitement, they were put down at first as cases of "mania." As I do not recognise "dementia" to be curable when used in a correct sense, I do not diagnose any recent case as such, no matter what the symptoms are at the time. To my mind a patient is only proved to labour under dementia when he is proved by lapse of time to be incurable and has the symptoms of mental enfeeblement as well. Many of these 134 senile cases were really cases of dementia, but I put them down as mania at first because their enfeeblement of mind had not been proved to be incurable, and because they had more or less motor excitement. In only 19 of these was the excitement so intense as to be classified as acute mania. The mental symptoms in these 134 cases, like those of the melancholy cases, were most different in kind and degree, duration and result. Some were short, sharp brain-storms preceding death, outbursts of delirious excitement accompanying the break-up of the organism. Instead of a long and gradually progressive failure of convolutional function, in such cases the function ended in a quick and tumultuous fashion. Instead of mere loss of power from innate trophic failure and want of blood, in such cases there is a vasomotor paralysis and a development of irregular cellular energy, expressed outwardly by constant talking, shouting, incoherence, loss of memory, loss of attention, sleeplessness, and, above all, by a constant motor restlessness by night and day, but especially by night. This was such a case—A. D., æt. 78. He had been pretty well up to three months ago, and at that time the excitement and exertion of moving from one house into another seemed to exhaust him. He first become stupid and peculiar, and this came on suddenly, being noticed particularly one morning. He gradually became excited, incoherent, threatening, unmanageable, and his memory was lost, but for ten days only before being sent to the Asylum had he been very excited. The whole household and neighbours were disturbed by his noise, and his friends and doctor decided that he must be sent to the Asylum. On admission he was weak muscularly, spoke with the voice and articulation of a very old man; he was confused, and his memory was gone. He said he was 40, and could not answer almost any question correctly. His heart's action was weak, and there were moist rales heard all over his chest, but there was no acute disease, his temperature being 98°·4 and his pulse 80. The left side of his face was the least bit paralyzed, and his pupils unequal. There was no paralysis of arms or legs. He did not sleep, but was noisy and excited all night. There was much difficulty in making him take his food, too. His bronchitis was bad and his cough very troublesome. Within 48 hours after admission he got pale and weak, his breathing was impeded, and he died suddenly that day. There was no post-mortem examination. His relatives naturally were very sorry they sent him to the Asylum, and were inclined to blame their doctor who recommended it. No doubt, if the result could have been foreseen, no one would have recommended his leaving home, but I do not think there were symptoms present pointing to the result. When consulted about cases of senile insanity, I always have before my mind the question, "Are those mental symptoms not the mere forerunner and accompaniment of a general break-up?" And to answer that question it is desirable to go into the condition of the brain, the heart, the lungs, the kidneys, and the general strength very carefully. I am always suspicious of sudden oncomings of mania in old people being of this character.

The following case was typical in its inception, symptoms, incidents, duration, and pathology—A. E., æt. 78. Had been hard working, and as drunken as his limited means would allow. Senile insanity is often the penalty for an excessive use of alcohol in earlier life. About nine months ago he got a fall down stairs, and has not been so strong or well since. About six months ago his memory began to fail, then he became stupid and confused, then suspicious, then restless, then unmanageable, then violent to his wife, and was then sent to the Asylum as a pauper patient. On admission he was confused, slightly excited, very restless, his memory gone, his general condition weak, his senses blunted, his speech senile, his pupils irregular in outline, his tongue tremulous, his pulse 90, weak, and intermittent, his temperature 98°·2, his lungs and other organs healthy, and his appetite good. He was well fed and nursed in our hospital ward, but though he gained in flesh he did not improve. He was restless, especially at night, became gradually dirty in his habits, moved about in a purposeless way all the time. The motor restlessness of a senile case is an extraordinary vital phenomenon. He never sits down, seldom sleeps, he shouts, and walks about his room all night, and yet never tires. I found that this symptom existed in 60 per cent. of all the cases. Whence the source of all this most unnatural muscular energy? It exhausts his small stock of real strength, though he does not feel it. It is the antipodes of the quietude and disinclination for exertion of the normal old man.

About three months after admission, as he was aimlessly carrying a chair in the day room, he slipped, falling down and breaking his right femur at the neck inside the capsule, though this was most difficult to make out at first. He got on pretty well, being left in bed and nursed and cared for as well as possible. In about two months the restlessness came on again, and in trying to rise he hurt his leg again. In about a month he died of exhaustion, having been ill for ten months, there being much difficulty in preventing the formation of bed-sores before death. The difficulty of managing such cases satisfactorily in an asylum or out of it is extreme. They are very restless, always meddling with something or somebody, very obstinate, entirely forgetful and purposeless. They are constantly making their water on the floor, in a corner of the room, or in another patient's hat. They need bathing often. Their bowels are either too costive or too loose. They are liable to retention of urine from enlarged prostates and bladder paralysis. They either eat too much or won't eat at all. A slight fall breaks their bones. To lie near other maniacal or irritable patients is out of the question, for they are sure to get hurt. For them one requires to use the best attendants, the best single rooms at night, and the best parts of a fully-equipped hospital ward; and all this needs to be done by nurse and doctor under the depressing feeling that it is of no use in the long run towards the cure of the patient.

On a post-mortem examination of A. E.'s case the pia mater and arachnoid were found thick and opaque, but stripping freely off the convolutions, which were, over the vertex of the brain, atrophied and covered with an opaque compensatory fluid. On section the gray substance of the convolutions was irregularly thinned and soft in texture, the perivascular canals enormously enlarged. In the extra-ventricular nucleus of the left corpus striatum there was a recent hæmorrhage the size of a pea, and in the right optic thalamus one of the same size of older date. There was a small softening from embolism or thrombosis in another part of the thalamus. The lining membranes of all the ventricles were granular, and the lateral ventricles were very large from interstitial brain atrophy. All the brain arteries were atheromatous in patches, causing diminution of their lumen at these points. There was hypertrophy of left and dilatation of both ventricles; aorta was very atheromatous, lungs were œdematous, liver slightly nutmeggy, right kidney disorganized and the seat of an extravasation of blood. On microscopic examination the large cells in the inner layers of the convolutions were found in the degenerated atrophied state, with their processes gone, as represented in Dr Major's plate.[1] There was much *débris* round the vessels in the perivascular canals. In some few of the cases the pathological appearances are indicative of a much more intensely disturbed state of the convolutions during life. For instance, in a case I examined, A. F., æt. 76, who had been ill for fifteen months, the last three of which were spent in the Asylum, and who had, in addition to the symptoms of the last case, great violence at times, wanting to get out of his house, which he maintained was not his own, an epileptiform attack, a very indistinct, thick articulation, scarcely intelligible, more of a remissional character, more emotionalism, and a temperature of from 99° to 100°, we found, after death, great adherence of the dura mater to the skull-cap, and a very dark-coloured false membrane, varying from a quarter of a inch in thickness, covering the whole of the vertex, and descending down and covering the base in a thin layer. In this membrane there were several pure blood-coagula from the size of a pea up to that of a small walnut. The pia mater was not adherent (though in two or three senile cases I have found it to be so), the ventricles were granulated, and there was much general atrophy. There was hypertrophy of the muscular substance of the heart and aortic incompetence.

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[1] *West Riding Medical Reports*, vol. v. p. 161.

The following is a case of transient senile mania recovered from: —A. G., æt. 63, a man of a cheerful disposition and somewhat intemperate habits. By the way, liquor undoubtedly affects an old man far more than a young one in the direction of producing insanity as well as less marked psychosis. It tends towards tissue degeneration more at advanced ages, and the nerve tissue suffers in neurotic subjects most. There was some insanity in the family, but he came of an otherwise sound, long-lived stock. Three months ago he had an old ulcerated leg healed up. Had a perineal abscess a fortnight ago, which was opened, and since then has been affected in mind. The attack is recent, and came on suddenly. He began to take fancies that he was rich, got excited, and had a great craving for drink, which he indulged, and got much worse after it. On admission he was greatly exalted, saying he was possessed of all knowledge, power, and wealth. He was excited, shouting and crying; said he was the "Messiah God," that he had millions of money. He did not sleep, and his appetite was poor. He was dirty in his habits, and constantly restless. He was fed well, and got tonics, chiefly iron and quinine. Within a month was quiet and almost rational and free from delusions. In about three weeks more he began to suffer from headaches, and soon became melancholic and morbidly anxious about his health. After having begun to sleep well, he again lost the power of sleeping in this melancholic stage. In about another month he gradually got out of the depression, and passed into a quietly contented, rational, sane senility. He went home, and ended his days in peace after some years. He entered on the attack a middle-aged-looking man; he came out of it visibly an old man in body and mind, but in no respect a dotard or unfit to manage his affairs in a quiet way. This was a case of senility ushered in by a brain-storm. Mentally he at first resembled a general paralytic.

Looking at senile insanity broadly, there is no doubt that its pure type is to be found in the restless, sleepless dotard, without memory, without true affectiveness (at the beginning of the disease there is often affective hyperæsthesia and uncontrollable emotionalism), without crisp, articulate speech—second childhood in an unmanageable form, in fact. That is the true senile dementia, out of which there can be no issue but death. Of this class of case there were in a typical form 62 cases of the 203, or 30 per cent. That was a surprise to me. I had expected more of that type. Some of the others seemed to be of that character at one period of their attack, but they came back to something like normal mild senility. As might have been expected on physiological grounds, the markedly typical cases of senile dementia were found in greatest number at the more advanced ages; but from 60 up to 75 there was no regular increase in their number. Under 75 there were only 18 per cent of typical dotards; over 75 there were over 50 per cent.

Some of the cases were quite strong in body, and, beyond some arterial degeneration, showed no signs of bodily disease, and their mental condition was a cheerful, forgetful enfeeblement. I have one such man of 70, as good a garden worker as we have, who sleeps well and eats well, but can't tell you the day of the week, calls me an old friend, and has no idea where he is. Another marked type is that of pure senile elevation, with delusions of great possessions and power, as in A. G.'s case. Such delusions, existing along with mild maniacal exaltation and the senile articulation, are very like cases of general paralysis. They are constantly diagnosed as such, in my experience. But general paralysis scarcely ever appears after 60, and never after 65. A close study of the speech, too, will usually determine the difference. There is not the true general paralytic fibrillar trembling, or the spasmodic convulsions of the smaller facial and labial muscles. Quite a number of the cases were of that type in the early period of their disease. One such case of 65, A. H., had millions of money; the Asylum belonged to him; he would give you a thousand pounds for the asking; he was happy as a king, and he was constantly restless, pulling off his buttons and taking off his clothes. His speech was thick, hesitating, and wanting in crispness of tone. He gradually became hemiplegic, and died in about two years, a dotard, and a large embolic softening was found in his corpus striatum, as well as several smaller softenings in the convolutions of the motor part of the vertex.

Many senile cases have hallucinations of hearing. I have now two old women who hold regular conversations with people in the ceiling and in the next room. Some of the men develop a morbid eroticism and a physiological immorality. Many a marriage I have known to be made by commencing senile dements. I had one patient of 80, A. I., whose conduct towards his female nurses was so bad that few respectable women could be got to look after him, and yet he was of the melancholic type, "just going to die" every day. Masturbation is not unknown in senile insanity. The hypochondriacal mental symptoms that are certainly one the most characteristic features of the cases of climacteric insanity are sometimes seen in senile cases. In most cases there are morbid suspicions at the beginning. I had an old lady patient who dismissed her old faithful servant two or three times a week for stealing her clothes. I saw one lately who believes that her neighbours come into her house and have a plot to rob her of her money. The characteristic of the senile suspicions is that they refer to things that are possible to happen, to stealing of clothes or money, to faithlessness on the part of near relations, etc., and do not refer to the impossible things that cases of real monomania of suspicion believe, to electric and mesmeric agencies, to elaborate social plots, etc. The senile cases are constantly changing in their suspicions and fancies, too; one day it is one thing, another day another.

In a few of the cases food is refused—a very troublesome and a very grave symptom. To feed an old man or woman by the nose or stomach tube does not seem, somehow, to be followed by such good results as the forcible feeding of younger patients. The mucous membrane of the mouth and fauces is apt to get dry, and diarrhœa to set in. In two or three cases *hæmatoma auris* developed during the acutely maniacal stage, this no doubt indicating marked vascular disease and trophic disturbance.

The ages of the cases are best seen by a glance at the table.[1] Taking the whole number of cases (203), over 60 per cent. of them were between 60 and 70, 35 per cent. were between 70 and 80, and about 4 per cent. over 80. That is not far from the proportion at those ages in the general population over 60. The chief difference is that the proportion of insane persons between 70 and 80 is greater, and the proportion of the sane over 80 is double that of the insane.

One of the most interesting and important of the results I obtained from an analysis of those 203 senile cases was a clearer idea than I had had before of the course of such cases, their duration, and the results of treatment. The general result was that 72 of the cases, that is, 35 per cent. of them, were discharged from the Asylum recovered; and 69 cases, that is, 33 per cent., have died; while 33 cases were discharged more or less improved or not at all improved, leaving 29 cases under treatment. The striking fact is the number of recoveries. I must explain that the "recovery" from any form of senile insanity need not necessarily be, and is not as a matter of fact, an absolute restoration to vigour of mind. Some such recoveries there were, men who went out and earned their own livelihood, women who went out and governed their households. But such cases were usually the short attacks of exaltation or depression that I have referred to. They mostly occurred between the ages of 60 and 75, though they were not absolutely unknown after. At least one-half of the recoveries, perhaps rather more, were returns to or gradual passings

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Age.	Total Nos.	Recovered.
60–65	62	24
65–70	63	21
70–75	40	15
75–80	30	9
80–85	3	1
85–90	5	2
	203	72

into comfortable, manageable, normal senility. That is all that can be expected in a case with the typical characters of senile insanity. It is all I ever lead the relations to expect will occur. But it is a most happy change from senile mania. To have an aged father or mother come out of such a condition, and become fit to go home and be lovingly cared for till death takes place, is an occurrence for which most persons of proper feeling will be profoundly grateful. When such a return to normal senility occurs, there is usually little tendency for the excitement to return under proper care and feeding.

The recovery rate in each quinquenniad from 60 to 75 was about the same, and the rate in that whole period of fifteen years was 36 per cent., or 60 cases out of 165. The numbers in each of the next quinquenniads were too small to give results worth generalizing on, but the total number of recoveries in the 38 cases over the age of 75 was 12, or at the rate of 32 per cent. This last was one of the results that surprised me, I confess.

The recoveries took place in about the usual time that recoveries from other forms of insanity take place. About one-half (47 per cent.) of them were discharged recovered within three months of residence, and over three-fourths (79 per cent.) of them within six months. In fact, rather a larger number recovered within six months than the average recoveries in an asylum.

Sixty-nine of the 203 cases have died up to this time. There is much risk of them dying within the first month; this, of course, meaning that in a considerable number of cases the mental disease is of the nature of an *ante-mortem* delirium, like A. D.'s case I have related (p. 1063). Seven per cent. of the cases died in this time, making about 20 per cent. of the whole deaths. Far more died in the first than in any subsequent month. More than half the deaths occurred within the first six months of residence, that being a considerably earlier period of death than in any other form of insanity except general paralysis.

The pathology of the disease is interesting because it has some approach to definiteness. It is, next to general paralysis, the form of mental disease in which the most distinct pathological appearances are found in the brain. Out of the 69 deaths we were allowed to have post-mortem examinations in 52 cases. I often find it unusually difficult to obtain permission for post-mortem examinations in senile cases. An exhaustive analysis of the pathological appearances found in these 52 cases would be far too tedious to attempt. Many of the cases would need a special description to do them justice. All I shall attempt is a summary of the chief appearances. The most common of all the lesions found in the brain itself was that form of combined cerebro-vascular disease, commonly called softening of the brain. This occurred in a marked form in 22 cases, or 42 per cent. of the whole. I need hardly say that I use the term in the proper sense of a *ramollissement*, a localized necrosis, partial or entire, of a portion of brain tissue, resulting in most cases from a deprivation of blood through embolism or thrombosis of the arterial branches supplying it. In every case of softening there was marked vascular disease, and in many cases the obstructed vessel that had formerly supplied the starved portion of brain could be demonstrated. Commonly the form of vascular disease was atheroma in an advanced form, sometimes aneurisms, large and small, sometimes inflammatory general thickening of the coats of the vessels. The softenings were commonly localized and seldom very extensive, in this differing markedly from the softening found in the brains of younger insane persons. They were found everywhere, but the most common sites were the great basal ganglia, notably the corpus striatum, and the convolutions of the vertex and lateral portions of the anterior and middle lobes. The appearances of the softenings were very different in different cases, according to the duration and the suddenness or gradualness of causation. When a twig of a cerebral artery is suddenly obstructed by an embolic plug, most of the tissue supplied by it dies at once, a sort of inflammatory process (the "red softening" of the older pathologists) taking place for a few days first. Then it liquefies from the centre outwards, appearing as the typical "white softening," the process tending to spread into the sound tissue usually, but sometimes, if the dead portion is very small, the *débris* gets partly absorbed and the tissue round it sacculates, or, in still rarer instances, they shrink together, forming a condensed cicatrix-looking spot. But no doubt the common thing is slow progression of the softening, in accordance with that fatal law of progressive nerve tissue degeneration first described by Waller in the peripheral nerves, and which has since been found to exist in so many nervous diseases. In senile cases the softening process is commonly gradual through the slow starvation of an area of brain tissue from a gradual atheromatous diminution of the lumen of its supplying vessel. I did not formerly believe in a non-syphilitic senile arteritis affecting all the coats of the vessels. Now I do, for I have seen it. And I know of no test to distinguish such arterial disease from the more common syphilitic arteritis. In that case there is no preliminary red softening, but a slow absorption of the nervine tissue, a corresponding compensatory development of the less vitalized neuroglia and packing and retaining tissues, generally giving the appearance at first of a spongy gray area, and going on to its complete atrophy and disappearance. The appearance caused by the sudden and the gradual starvation process differs much in the convolutions and the white substance. The former having about five times the blood-supply of the latter, it is far more apt to be filled with hæmorrhagic *débris* in the sudden cases, and to have a gray, dirty, gelatinous look in the gradual cases. The convolutions or parts of convolutions affected look wasted, the pia mater comes off readily, and to the touch their resistance is very soft. It is difficult even to harden them in spirit. The chief blood-supply of the convolutions being derived from small arterial twigs from the pia mater, each twig not anastomosing with the others, but nourishing a small convolutional area of its own, if one of these is obstructed its area dies and softens, slowly or quickly according to the kind of obstruction. But, as Duret and Heubner show, the convolutions have a second blood-supply from within. We do not find the complete necrosis of tissue in the gray that is found in the white substance. They always retain their vitality, and almost never become a liquid pulp, or altogether disappear, like the white substance, from this cause.

The next notable appearance observed was marked atrophy of the whole brain, or of considerable portions of its convolutional surface. This existed, alone or in conjunction with other lesions, in so marked a degree as to be put down as one of the direct causes of death in 12 cases, and in a lesser degree in most of the others. No doubt this atrophy is partly the same process as softening, only the starvation process is slower still, and is partly owing, not to a diminished blood-pabulum merely, but to an innate lack of trophic energy in the neurine elements. It manifests itself in brain sections by much enlarged perivascular canals and dilated ventricles. The curious way in which the cerebral envelopes and packing elements seem to make an effort to expand and compensate in bulk for the shrinking brain is, I suppose, partly connected with the physical conditions of the closed box within the cranium, inaccessible to the atmospheric pressure except through the blood-vessel openings and the foramen magnum, and partly owing, no doubt, to the irregular congestions of the tissues supplied by the carotid arteries and their branches that accompany the paroxysms of maniacal excitement. From whatever cause, when the brain is most atrophied we are most apt to have thickenings of the skull-cap, often taking the form of successive layerings of bone over the inner table where it covers the vertex, and especially over the anterior lobes, where the atrophy is usually most marked. The dura mater is thickened, and usually adheres pretty strongly to the skull-cap. The arachnoid is thickened, the pia mater thick and fibrous, and the cerebro-spinal fluid superabundant, milky, and full of microscopic *débris*.

There were recent apoplexies of such a size as to be seen by the naked eye in only 5 cases, a very small number. Microscopic apoplexies within the pia mater, in the tissues and round the softenings, and in the perivascular canals, are much more frequent. In fact, there are few cases of senile maniacal excitement where some cannot be found in these positions. But in all those cases of softening it seems marvellous that there were not more cases of apoplexy. Given vessels with diseased, weak, and inelastic coats, given atrophy and softening of the brain, the place of the solid tissue being taken by mere liquids and spots of softening, and add to these maniacal attacks, implying intense vascular congestion, one would think that large apoplexies must occur in every case from the want of support to the diseased vessels. Yet we have seen this was seldom the case. The existence of small apoplexies probably explains the occurrence of transient attacks of hemiplegia, as in a very interesting senile case in this Asylum reported by Dr J. J. Brown,[1] where the whole of the pia mater was full of miliary aneurisms, and most of the convolutions filled with pin-point apoplexies. Such cases, as well as the cases with limited softenings, bring senile insanity into close relationship pathologically with paralytic insanity, with which it has many common features. They are the two clinico-pathological forms of insanity most allied. Senile insanity often becomes paralytic insanity. Paralytic insanity always has many of the mental symptoms of senile insanity.

There was distinct meningitis in 3 cases, one of which was the case of A. F., with "pachymeningitis hæmorrhagica interna," referred to on page 1065. Of the other organs of the body, the heart was found most frequently affected, there being marked cardiac disease in 10 cases. The lungs came next, with bronchitis and broncho-pneumonia in 9 cases; and next the kidneys in 2 cases. In very many of the cases several of the above morbid conditions were combined.

With regard to the microscopic appearances in senile brains, I must refer to the careful and true descriptions and drawings of Dr Major.[2] We have all been able to confirm those observations, and perhaps to see some special points in addition, but have not been able to add anything essential to them. The various stages in the degeneration of the large cells, the atrophy of the smaller cells and nuclei, the enlargement of the vascular canals, and the *débris* of granules and hæmatin crystals, are all well described by Dr Major.

The weak point in the pathology of senile insanity is, that we have no means of comparing those lesions and changes I have described with the appearances of the brains of old persons who were not insane. Beyond a doubt, some of them, both naked-eye and microscopic, are present in persons whose mental condition was never beyond normal senility; but there is less doubt that in the brains of 52 persons from the average population over 60 there would not have been found so many softenings and atrophies, etc. What we have to ask ourselves, in order to form anything like a proper conception of these cases of senile insanity, is, What was the relationship between the purely dynamical phenomena of morbid mental exaltation or depression, loss of memory, and constant purposeless motor excitement, during life, and the atrophied convolutions, the degenerated cells, the diseased vascular system, and the starved areas of brain found after death? Did these pathological changes, when they advanced to a certain point, simply allow old hereditary convolutional weaknesses to come out that had been so slight that by nothing but slow death of brain tissue could they have become actualities instead of mere potentialities? Or had the advancing brain degeneration simply weakened and destroyed all the higher inhibitory faculties and "centres" in the brain? Is the constant motor restlessness referable to the progress of the manifest changes in the larger "motor" cells of the convolutions? Is the loss of memory a mere paralysis of the power of attention and mental concentration on sense impressions—a part of the loss of inhibitory power, in fact? Or is it, in addition, an absolute paralysis of receptive capacity on the part of the cells in the convolutions, the impressions from the senses being "writ in water"? Or do the impressions not reach the convolutions through degeneration of the white conducting fibres? As to the memory of old events, which is the last to go, is that just the result of destruction and atrophy of the cells as organized activities? What light does the whole known pathology throw on the connexion of the mental and motor symptoms? It has always seemed to me that that connexion in senile insanity clearly proves the motor functions of the brain's convolutions.

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[1] *Journal of Mental Science*, July 1874.

[2] *West Riding Reports*, vol. iv. p. 223; and *ibid.*, vol. v. p. 161.

How can senile insanity best be treated and managed? I can only lay down the principles that I have found useful, and can scarcely enter into the details of individual cases or requirements. The thing of first importance is undoubtedly to get a good nurse,—a responsible, skilled, patient, experienced person. Women make by far the best nurses for old people of either sex, but for male patients they are sometimes not physically strong enough. After a good nurse (and a daughter or relative will sometimes make the best of all) comes the routine of management, diet, exercise, and regimen. Excitement, and new things or ways, or places or persons, should be avoided. Old people take best with what they have been accustomed to. Warmth by night and day is most important, combined with airiness of the apartments. The clothing should be warm by night as well as by day. Cold aggravates excitement and causes dirty habits. The night management is the most important and the most troublesome. It is better not to attempt to keep the patients in bed all the time if they won't stay in bed. Struggling with them causes irritation and resistance. A suite of airy, not over-furnished apartments downstairs are the best. As to exercise in the fresh air, it is most important. It makes all the difference between being able to manage a case at home at all or to manage it well in an asylum. It should not be given up to the point of exhaustion, like exercise in young acutely maniacal cases. The walks should be short and often; and, when the weather admits, sitting in the open air should be practised. Senile patients have a provoking habit of sleeping during the day and waking at night. Better sleep by day than not at all. The diet is also most important. I find the first food of man to be the best at the opposite end of life. There is nothing like milk, given warm and in small quantities at a time, and often. Fatten your patient and you will improve him in mind. Too much flesh and beef-tea are often too stimulating and indigestible; cod-liver oil often works wonders, and so does maltine. Fresh vegetables, or their juice in soups, should always be given. All the food should be minced or pounded for a large number of the cases.

Sometimes it is necessary to fit up a special room in a private house for night use, without furniture, warmed, and that can be cleansed daily. Night feeding as well as day feeding is often needed. Often a big stomachful of hot porridge or bread-and-milk will give a night's sleep far better that a hypnotic medicine.

The purely medical treatment is, in senile insanity, the least important, but we can do something in that way. My experience of opium and henbane is unfavourable as sedatives. They diminish the appetite, and often kill the patient. But by means of mild doses of the bromides, with or without small doses of Cannabis Indica, used *occasionally* as required, we can tide over bad nights comfortably. Tonics are useful, and iron and the phosphates often work wonders. Alcoholic stimulants are often useful, but not so often as is commonly supposed. The bowels should be regulated by the simplest laxatives. Some treacle or syrup given with the evening meal of porridge is often all that is needed for the bowels.

The great aim, in most cases, is to get into comfortable normal senility as soon and quietly as possible. In some cases the restlessness and noise are so pathological that nothing seems to have any effect in controlling or abating them. The patient and his brain simply wear themselves out, and every one about him is thankful when all is over without accident. Few points are so difficult to determine as the one of sending a very old person to an asylum or not. The feelings of every one go against it if there is a good home, dutiful relatives, and sufficient means. The best way is to try all other means first. In good asylums we give the poor suffering from senile insanity a sort of treatment that the richest often cannot get at home for any price, and in many cases with remarkable success. If, therefore, there is poverty and no conveniences for treatment, one cannot hesitate about the course to adopt.

I am well aware of the imperfect view of the whole senile condition, bodily and mental, that a physician to an asylum is apt to get from seeing the very worst cases only. His picture is filled in with very black shadows. To keep himself right, he must take all the opportunities he has of seeing and studying senility outside of an asylum, which I habitually do, trying to look at it with a medico-psychological and pathological eye. I never see an old man who fails to interest me from that point of view. I wish physicians in general practice who have to meet the smaller emergencies of senility would put their observations before the

world more than they do. I find the management of most old cases is regarded without much interest. And yet what a field of psychological study, to be able to watch the waning minds of strong men and subtile women!

ARTICLE II.—*Ankle Clonus in Relation to the Height of the Individual.* By ALEXANDER JAMES, M.D.

(*Read before the Medico-Chirurgical Society of Edinburgh, 7th March* 1883.)

WHILST working at the subject of clonus, I have found, as previously stated,[1] that it varies in time considerably in different muscles. Thus the knee clonus I have found to be, for the most part, more rapid than the ankle, the elbow more than the knee, and the head most rapid of all. The elbow and head clonus I have timed in healthy individuals, in most of whom they can readily be induced by a little practice. The knee and ankle clonus I have studied in diseased as well as in healthy cases.

I have suggested that the cause of the differences in the rapidity of those clonic contractions lies in the differences in the distance of the muscles concerned from their nerve centres in the spinal cord,—the muscles concerned in the production of ankle clonus being furthest distant from their nerve centres, those engaged in the production of the head clonus being the least. On the assumption that clonus is a reflex phenomenon, and that the time required for a reflex act in the cord and for the latent period of muscle is always the same, the greater the length of the nerve the slower will be the clonus.

But now it must be noticed that clonic contractions need not be reflex, and that they may vary very much as regards rapidity in the same muscle; *e.g.*, in epilepsy the stage of tonic contraction is followed by one of clonic, and the time of occurrence of these latter varies apparently indefinitely. This is very well seen in a tracing which I have obtained through the kindness of Dr Affleck from a patient in the Royal Infirmary. The case is one of Jacksonian epilepsy affecting the left arm, and the tracings were obtained by means of Marey's tambours, the receiving one being applied to the extensor surface of the forearm. As can be readily understood, a good tracing of muscular contraction is not easily obtainable in a case of this kind. The movements of the limb, at times even violent, cannot readily be followed. Still, the one which I show is sufficient for our purpose. In it we recognise that at first the line is almost straight, denoting *tonic contraction;* then it presents *clonic*, the rapidity being about 8 or 9 per second; then more violent, but at the same time less rapid, clonic contractions appear, and we can here and there notice that between the violent and slower clonic contractions there are less violent but more rapid ones. Finally, we can notice these large contractions becoming smaller, and the intervals between them lengthening, till they cease altogether.

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[1] *Edinburgh Medical Journal*, August 1880.

Again, in the gastrocnemius of the frog we can easily get an example of clonic contractions varying as regards rapidity. If we connect this muscle with a weighted lever, we can, by stimulating it, either directly through the sciatic nerve, or reflexly, produce clonus if we use an interrupted current in strength slightly less than what is required to produce tonic contraction.

Here the explanation seems to be, that just as water made to flow through a tube will fall in a continuous stream when the head is great, and will fall in drops at longer and longer intervals as the head falls, so will a stimulus applied to the spinal cord, nerve, or to muscle directly produce tonic contraction when the irritability is great, and clonic contractions with intervals becoming longer and longer as the irritability becomes exhausted.

It will thus be seen that the rate of clonic contractions may vary in the same muscle. Into the production of the clonus to which this paper applies other elements probably enter.[1] It may, however, be represented by the first clonus on the tracing, *i.e.*, the most rapid which can be induced in a given muscle.

If now our theory is correct,—*i.e.*, if the difference in the rapidity of the ankle, knee, elbow, and head clonus depends on the difference in the distance of the muscles concerned from their nerve centre in the cord,—we should expect to find differences in the rapidity of clonus in individuals of different heights; and as the height of the individual depends mainly on the length of his legs, we should expect to find this difference best marked in the ankle clonus. That this should be the case is fortunate, inasmuch as this clonus is the one which can be most readily induced by healthy individuals, and consequently is the one which can be most readily timed.

During the last few months I have, therefore, timed the ankle clonus in a number of individuals, endeavouring to limit the difference between them, as far as possible, to one of height alone. Thus, with few exceptions, the individuals experimented on were students of medicine or young graduates, the average age about two or three and twenty years, and all in perfect health. The exceptions were females, patients in the Infirmary, although, as far as their nervous and muscular systems were concerned, in good health. The results given in the table bear out, I think, the theory which I have suggested; but before considering them in detail let us devote a few minutes to the consideration of what results we should theoretically expect.

In the first place, then, let us suppose (speaking roughly) that the distance between the muscles concerned in the production of ankle clonus and their spinal centre is 1 yd. in individuals a little over 6 ft. in height, whilst in individuals a little over 5 ft. in height let us suppose it to be 2 ft. Let us further suppose that the nerve impulse travels at the rate of 120 ft. per sec., that the latent period of muscle contraction is $\frac{1}{50}$ sec., and that the time required for a reflex act is $\frac{10}{100}$ sec.[1] Then $\frac{6}{120}$ sec. + $\frac{1}{50}$ sec. + $\frac{1}{10}$ sec. = $\frac{17}{100}$ sec., and $\frac{4}{120}$ sec. + $\frac{1}{50}$ sec. + $\frac{1}{10}$ sec. = $\frac{23}{150}$ sec.

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[1] *Edinburgh Medical Journal*, August 1880.

In this way, if our data are correct, the rapidity of the ankle clonus in an indivdual 6 ft. in height should be $\frac{100}{17}$ = 5·8 per sec., whilst that of one about 5 ft. in height should be $\frac{150}{23}$ = 6·5 per sec. The difference is in this way very slight; and when we reflect on the many and diverse ways in which the rapidity of nerve impulses, the time required for reflex action, and the latent period of muscle contraction, may be influenced, we might reasonably enough expect that our investigations should yield results too discordant to be of any value. Let us, however, examine them.

In individuals varying in height between 6 ft. and 6 ft. 4 in. (10 cases) the average clonus was 5·84 per sec., the lowest being 5, and the highest 6·75 per sec.

In individuals between 5 ft. 6 in. and 5 ft. 11 in. (29 cases) the average was 6·48 per sec.; the lowest being 5·7, and the highest 7·4 per sec.

In individuals between 5 ft. and 5 ft. 5 in. (9 cases, of which 2 were females) the average was 6·91 per sec.; the lowest being 6·7, and the highest 7·2 per sec.

In two cases, females, of 4 ft. 11 in. in height, the clonus was 7·8 and 7·3 per sec.; and in one child, suffering from paralysis, in the Children's Hospital, in height about 4 ft. 6 in., the clonus was 7·8 per sec.

A study of these results in this way shows, I think, that the theory with which we started is in the main correct, *i.e.*, that, *cœteris paribus*, the rapidity of the clonus bears an inverse proportion to the height of the individual. That there should be great differences in individuals of the same height is, of course, to be expected. We know that the rate of cerebral processes varies, as evidenced, perhaps best of all, by the fact that the "cerebral equivalent" requires to be obtained for men engaged in astronomical work, and we may be certain that the "spinal equivalent" will present corresponding variations. To have discussed this point would have required a much greater number of observations. I have no hesitation, however, in saying that individuals of the so-called nervous temperament have a rapid clonus as compared with those who appear phlegmatic; and it appears to me, also, that men who take part in athletic sports have a more rapid clonus than their physically less active neighbours. The influence of sex I can say almost nothing about, but I feel sure that as age advances the clonus tends to become less rapid.

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[1] Of course I am aware that different estimates of these periods have been made. These are, however, sufficient for our purpose.

TABLE.

No. of Cases.	Height.	Time of Clonus.	No. of Cases.	Height.	Time of Clonus.
	Ft. In.	Per sec.		Ft. In.	Per sec.
1.	6 4	6·0	25.	5 8	7·0
2.	6 2	6·25	26.	5 8	7·4
3.	6 2	5·0	27.	5 8	6·4
4.	6 1½	5·5	28.	5 8	6·33
5.	6 1	5·2	29.	5 8	7·0
6.	6 1	5·7	30.	5 7½	6·75
7.	6 0	5·3	31.	5 7	6·25
8.	6 0	6·25	32.	5 7	7·5
9.	6 0	6·53	33.	5 7	6·7
10.	6 0	6·75	34.	5 7	6·25
11.	5 11	6·85	35.	5 7	6·82
12.	5 11	6·66	36.	5 6	6·0
13.	5 11	6·37	37.	5 6	7·0
14.	5 11	6·6	38.	5 6	6·2
15.	5 11	6·4	39.	5 6	6·1
16.	5 11	6·0	40.	5 5½	6·75
17.	5 10½	6·2	41.	5 5	6·7
18.	5 10	6·0	42.	5 5	6·8
19.	5 10	6·2	43.	5 5	7·0
20.	5 10	6·83	44.	5 4	7·0
21.	5 10	6·0	45.	5 2	7·25
22.	5 9½	6·83	46.*f.*	5 2	7·2
23.	5 9	6·0	47.*f.*	5 2	7·2
24.	5 9	5·7	48.	5 1	6·75

ARTICLE III.—*Carmedik, a Cape Bitter; its Characters and Chemistry.* By MATTHEW HAY, M.D., Assistant to the Professor of Materia Medica, University of Edinburgh.

IN June of last year Mr A. P. Myburgh, a medical student from the Cape, very kindly presented me with a small quantity of an herb which, he told me, is much used throughout Cape Colony as a bitter tonic, and, excepting buchu, is the most commonly employed of the native medicines. It is known by the name of Carmedik, or, according to the Dutch spelling, Karmedik. A glance at its thistle-like appearance at once showed me that it belonged to the wide-spread order of the Compositæ, and to the subdivision of the Cynarocephalæ. I sent a portion of it to the late Mr Sadler, curator of the Royal Botanic Gardens, who, after examining it and comparing it with all the known species of the Cynarocephalæ, kindly informed me that neither he nor any of the members of the Botanical Society, at a meeting of which it was exhibited, were able to recognise it as a known species of thistle. He believed that it belonged to the genus Carthamus, and was closely related to *Carthamus tinctorius*.

Habitat.—Mr Myburgh procured the specimen given me from East Somerset, in the eastern province of Cape Colony, a district nearly 500 miles from Cape Town, and about 100 miles from the sea coast. But I understand from other Cape students that it is found in abundance over the greater part of the colony. Wherever it is met with it grows in large quantity, and it is especially to be seen in freshly ploughed fields, growing ahead of and choking the young cereals. It is therefore a troublesome weed as well as a useful medicine to the farmers of the colony. It grows quite like the common thistle of this country, and when it is to be used medicinally the plant is cut down and dried just before the heads have come to maturity. The whole plant is then infused in water or in brandy, and the infusion is drunk in all cases where a stomachic bitter is supposed to be of service. Buchu, which is the other great universal medicine of the colony, is infused in exactly the same manner.

Botanical Characters.—The carmedik I received consisted of the whole flowering plant except the root.

The *stem* was from 6 to 9 inches in length, and not more than ¼ inch in diameter, and was of a tolerably bright pinkish tint, which strongly contrasted with the bright green colour of the leaves. It was ribbed and somewhat angular, and was covered with short, whitish, woolly hairs. It had no aroma, and on being chewed was found to be only slightly bitter.

The *leaves* were alternate, sessile, and exstipulate, and measured from 2½ to 3 inches in length; ovate-lanceolate and acutely and irregularly sinuous, with a large cusp between the sinuses, and smaller cusps in each sinus; acute at the apex; of a bright green colour, and with a well-marked reticulation, especially of the under surface, the veins having a reddish tint. The odour of the leaves slightly resembled that of tea. The taste was strongly bitter and moderately persistent, and very slightly aromatic.

The *flowers* or flower-heads closely resembled in general appearance those of the common thistle, and were nearly full-blown. The largest of them was about 1¼ inch in length and 1 inch in diameter. Each compound flower was surrounded at its base with a number of closely set leaves, and more immediately by adherent, firm, smooth, straw-coloured bracts, each of which terminated in a thorny-pointed branching cusp ½ inch to ¾ inch long. The florets were tubular, narrow, white, and silky. The bracts were slightly bitter to the taste, and the flowers hardly at all.

From this examination of the plant it will be observed that the bitter principle is almost entirely resident in the leaves, and only to a very limited extent in the stem and flowers. The leaves, therefore, should be chosen when it is desired to use the plant medicinally. In order to ascertain the relative weights of the leaves, stems, and flowers, I carefully plucked to pieces most of the plants at my disposal. They were previously well dried.

The leaves weighed 257·7 grains; the stems, 193·0 grains; the flowers, 269·2 grains. The leaves, therefore, weighed between one-third and one-half of the weight of the whole plant.

Chemical Examination.—As the leaves mainly contain the bitter principle, these alone were used for the isolation of this and the other active constituents of the plant.

The leaves, dried and pulverized, were infused twice in succession, for a period of twenty-four hours on each occasion, with boiling water, and then strained. The filtered infusion was now gently heated over the water-bath, and evaporated to a syrup, which was treated with absolute alcohol to precipitate albuminous and other medicinally inert substances. The fluid was filtered, and the precipitated residue well washed with absolute alcohol until it no longer possessed any bitterness. The alcoholic filtrate containing the whole of the bitter principle was now evaporated, dissolved in water, and treated with a little dilute sulphuric acid, which occasioned a small precipitate. This precipitate was slightly bitter to the taste, greenish-brown in colour, viscid, freely soluble in potash, and slowly soluble in ether. A qualitative examination of it showed that it consisted mainly of a resinous acid and of a little chlorophyll, carrying with them a small quantity of the bitter principle. The filtrate, freed from the precipitate, was shaken repeatedly with ether, and the ethereal solution, after being washed several times by shaking with water, was evaporated, leaving a small quantity of an intensely bitter, greenish residue, which contained practically the whole of the bitter principle of the plant, since the watery solution from which it was removed by shaking with ether had almost completely lost its bitterness. It was hardly necessary, therefore, to examine the watery solution further. I did, however, remove the sulphuric acid and render it alkaline by means of barium hydrate, and filtered and extracted both the precipitate and the filtrate with ether. But neither from the filtrate nor the precipitate did the ether extract anything whatever. It was now tolerably certain, from the relation of the bitter principle to ether in the presence of acid, that it was not alkaloidal.

The bitter greenish residue, which I have mentioned as being obtained by evaporation of the ethereal solution, was partly oily and resinous, but mostly crystalline. It was neutral in reaction, and dissolved entirely in alcohol, but only partially and slowly in water. Its solution in alcohol was mixed and digested with purified animal charcoal in order to remove the colouring matter and the resin. The filtrate, which was perfectly colourless, was very gently and slowly evaporated to dryness over the water-bath. An almost colourless residue was obtained, with an intensely bitter taste. On being examined microscopically it was seen to consist almost entirely of numerous rhomboidal crystals, mixed with a very few globular resinoid or oily particles. To remove the resin, it was treated with water, in which the crystals dissolved and the resin remained undissolved. The filtrate was again digested with pure charcoal and again gently evaporated. A perfectly colourless crystalline residue was now obtained, which was freely soluble in alcohol and ether, and somewhat less soluble in water.

These colourless crystals constitute, without doubt, the bitter principle of carmedik. Their solution in water was perfectly neutral, and they burned without residue, gave no odour of ammonia on heating with soda-lime, and, boiled for some minutes with dilute sulphuric acid, neutralized, and tested with Fehling's cupric solution, showed no trace of sugar. They are, therefore, crystals of a *neutral, non-glucosidal active principle,* to which I propose to give the name of *carmedicin.*

A solution of carmedicin in water was tested with a few reagents. With platinic chloride, picric acid, neutral acetate of lead, potassio-iodide of mercury, phospho-tungstate of soda, and phosphowolframic acid, it gave no precipitate. With iodine dissolved in iodide of potassium it formed a slight yellowish opacity, and with tannic acid it yielded a scanty white precipitate. Subacetate of lead was much the best precipitant, throwing down a bulky white precipitate.

I made no elementary analysis of the neutral principle, as the quantity of the original drug at my disposal was too small to permit of my procuring the principle in sufficient quantity and purity for this purpose. A sufficiently pure principle could probably be obtained by decomposing the lead precipitate with sulphuretted hydrogen.

Besides a neutral principle and a *resin,* whose presence I have more than once taken notice of, the leaves of carmedik contain a small quantity of a yellowish *volatile oil,* possessing, however, very little aroma, and a small quantity of a variety of *tannin.* The volatile oil can be separated by distillation in the usual manner, and the tannic acid can be readily detected by the addition of ferric chloride to an aqueous infusion of the leaves, the infusion assuming a tolerably deep greenish-brown colour.

As regards the physiological action of the neutral principle, the quantity I obtained of the principle was insufficient to permit of my being able to give a perfectly definite opinion. A dose of half a grain, apart from its intense bitterness, produced no perceptible effect.

From this examination of the chemical composition of carmedik it is evident that it is a simple vegetable bitter, with a certain degree of aroma due to the presence of a volatile oil, and is, therefore, to be classed with the tolerably large group of aromatic bitters of which there are a few in the British Pharmacopœia, one, indeed—chamomile—belonging to the same order as carmedik. Bitter neutral principles are extremely common in the order of the Compositæ, although they exist to a smaller extent in the sub-order of the thistles or the Cynarocephalæ than they do in the other sub-orders, most of the species of the thistle, indigenous or cultivated, in this country possessing little or no bitterness. Nativelle[1] has separated a bitter principle from *Cnicus benedictus*, a member of the Cynarocephalæ, and Scribe[2] has obtained from *Centaurea calcitripa*, also belonging to the same sub-order, a principle which he believes to be identical with the cnicin of Nativelle; and it is possible that carmedicin is likewise identical with it, or is closely related to it. Its physical and chemical characters, at least, are, so far as I have been able to compare them with those of cnicin, not opposed to this supposition.

For the purpose of obtaining an idea of the value of carmedik as a bitter tonic, I compared an infusion of it with some infusions of the Pharmacopœia as regards the intensity of their bitterness, assuming that the value of these tonics is in proportion to such intensity. One part of the leaves was mixed with twenty parts of boiling water, the usual pharmacopœial proportion, and infused for half an hour and drained. The infusion had a light golden-yellow colour, a distinct and slightly aromatic odour, and a fairly persistent, highly bitter, slightly aromatic taste. Compared with infusion of chamomile (B.P.), in which the same proportion of water and drug is used, the infusion of carmedik was considerably more bitter, but much less aromatic; with infusion of calumba (B.P.) it was of nearly equal bitterness, but more pleasant to the taste on account of the aroma; with infusion of chiretta (B.P.), which is made with a less proportion of the drug, it was slightly more bitter; with infusion of quassia (B.P.) it was decidedly more bitter; with compound infusion of gentian it was also very distinctly more bitter. Diluting it with water, and comparing it with the last two infusions, it was found that four times its bulk of water required to be added before it equalled in bitterness these infusions.

Carmedik is, therefore, a bitter tonic possessing a considerable degree of bitterness, more than many of the pharmacopœial bitters, and having a slight aroma which renders its taste somewhat agreeable. It does not appear to possess any special advantages over the vegetable bitters already in use in this country, and it is burdened with the disadvantage common to most of these, that it contains tannin, which is generally regarded as an obstacle to their prescription with salts of iron. It grows, however, so abundantly at the Cape, and could, therefore, be obtained so cheaply, that a trial of it as a substitute for our better-known bitters might be justified, especially since it is so highly prized and exclusively employed as a tonic by the provincials of Cape Colony.

In the carrying out of the operations involved in this investigation I was constantly assisted by Mr A. W. Leicester, medical student, to whom I tender my warmest thanks.

[1] Nativelle, *Journ. chim. méd.*, xxi. 69.

[2] Scribe, *Compt. rend.*, xv. 802.

ARTICLE IV.—*Remarks on Retroversion of the Gravid Uterus.* By WILLIAM BAIN, L.R.C.P., L.R.C.S., late Senior Resident Medical Officer, St Mary's Hospital, Manchester.

NONE of the various displacements of the uterus, whether in its gravid or unimpregnated state, exceeds in interest and importance that which forms the subject of these remarks, either as regards its causation or the serious results to which it occasionally gives rise. To William Hunter unquestionably belongs the merit of first describing it in this country. But it was not until Sir James Simpson shed the light of his powerful intellect upon this interesting subject that it received the consideration which its importance undoubtedly demanded.

Through the kindness of Dr Cullingworth I am enabled to publish the nòtes of a case which came under my immediate notice.

In consequence of an urgent note from the medical attendant, I visited S. L., aged 32, at her own home on 30th September 1882. The messengers who brought the note informed me that the patient had been told that she was far advanced in pregnancy, and that there was a tumour in the "passage" that would require to be removed before delivery could take place.

Previous History.—Patient has generally enjoyed good health. Menses did not appear until she was 18. Last menstruation in June. Has had two children. No miscarriages. Confinements natural. Convalescence tedious and protracted after the first, but rapid and uninterrupted after the second confinement. When she was three months pregnant with the second child she had for the first time a bearing down, and sometimes a substance appeared externally. When it protruded beyond the vulva, as it usually did after much stooping, she assumed the recumbent posture, which invariably effected the reduction of the prolapsed part. This continued for several weeks, when the tumour ceased to protrude, and she went to her full time.

Present Illness.—For the last two months patient has been troubled with a bearing down. Three weeks ago, after exerting herself all day at the washing-tub, the feeling of bearing down became aggravated, and pains about the pelvis set in. She felt very unwell. At midnight, being unable to rest, she got up, and found that she could not micturate. There was no abdominal enlargement observable until next morning. Her medical adviser was sent for, notwithstanding which her condition became more critical. Pain over the pubis was constant and ofttimes severe. She passed water with difficulty. She suffered from sleeplessness, loss of appetite, occasionally diarrhœa, and she found her strength gradually waning. On examination I found the patient quite prostrate, with a rapid and weak pulse, high temperature, and a thickly furred and tremulous tongue; pain in the back and hypogastric region. Diarrhœa had been persistent for several days. She daily voided large quantities of urine, which was ammoniacal and contained pus. The abdomen was distinctly enlarged. Dulness on percussion extended about two inches above the umbilicus. Resonant in the flanks. Fluctuation distinct. The tumour did not bulge forwards. The fœtal heart sound could not be heard, neither could the fœtal movements be detected. Per vaginam, the fundus uteri was felt low down in Douglas's pouch, almost resting on the perineum. The cervix was high up anteriorly, above the pubic arch. The uterus felt enlarged, and was slightly flexed. The abdominal tumour completely disappeared on evacuation of the bladder. Two days afterwards she was admitted into the wards of St Mary's Hospital, Manchester, under the care of Dr Cullingworth.

October 4th.—After several vain attempts to reduce the dislocated uterus, chloroform was administered, and, by means of four fingers of the left hand introduced into the vagina, gradual pressure was brought to bear on the fundus uteri, and the uterine displacement was quickly rectified. A watch-spring pessary was inserted into the vagina to retain the uterus in its normal position.

October 7th.—The urine still contains pus, and the temperature remains high.

October 9th.—Patient aborted. The fœtus, about the fourth month, was alive; at least its heart was observed to beat for five minutes, and it gave several gasps.

October 20th.—Cystitis much better.

October 27th.—Discharged cured.

Some time in the following December the patient came to the hospital for examination. The uterus was then found retroflexed and very mobile, the left ovary enlarged and prolapsed, and the pelvis unusually large.

About the same time as this case occurred, two other cases of a similar nature were admitted into the hospital, one of them being sent as an ovarian tumour.

With respect to the causes of this disease, the theory propounded by the late Dr Tyler Smith is, in the large majority of cases, undoubtedly the correct one, as the above case affords a typical illustration, viz., that retroversion of the gravid uterus occurs in many cases from "impregnation of the uterus already retroverted." In other words, the malposition existed prior to conception. I should think that impregnation is more likely to occur in a uterus slightly retroflexed than in one retroverted. Some cases probably are due to a combination of causes, such as a large pelvis, deformed brim, deeply concave sacrum, relaxation of the uterine ligaments, over-distended bladder, although the latter generally is the result, not the cause, of the deviation. Jumping or falling heavily might produce it.

The symptoms are due to the pressure of the enlarged displaced uterus upon the surrounding parts. Bladder symptoms are usually the first that attract attention—difficulty in micturition or retention of urine. Frequently the water dribbles away. Pelvic pains and a feeling of bearing down are often complained of. The fundus uteri pressing on the rectum may give rise to difficulty in defecation, obstinate constipation or diarrhœa, tenesmus, and inability to empty the bowels. If the bladder is not evacuated, the usual train of symptoms due to prolonged distention of that organ supervene.

The diagnosis is not by any means difficult. Retention of urine, or difficulty in emptying the bladder, occurring in a pregnant woman, should at once excite suspicion, and renders imperative a vaginal examination. On introducing the finger into the vagina, it impinges on the fundus uteri in the posterior cul de sac. On passing the finger forwards and upwards along the uterine wall, you will reach the cervix uteri, which can scarcely be mistaken. Bimanually the fundus uteri cannot be felt above the pelvic brim. Dr Playfair says, "With due care we can make out the alternate relaxation and contraction of the uterine parietes characteristic of the gravid uterus, and so differentiate the swelling from any other in the same situation."

What I desire particularly to direct attention to is that the three cases I have referred to were sent to the hospital with their bladders distended almost to bursting, the fact not being recognised by their medical attendants. In these days, when clinical teaching is almost perfection, when medical examinations are so thoroughly searching, and medical science advancing with such rapid strides, surely errors similar to those I have just indicated should no longer be committed. What an amount of suffering a little practical knowledge would have saved the woman whose case I have detailed! To teachers and examiners I think it is a matter for grave reflection.

Treatment.—Catheterism.—A long elastic male catheter should be used. If the rectum is loaded, administer an enema. If we are unable to introduce the catheter, we must have recourse to aspiration of the bladder. Reposition sometimes occurs from the continuous pressure in the vagina of a caoutchouc bag filled with water. If this does not succeed, the patient should be placed in the ordinary obstetric position, and while deeply under the influence of chloroform, steady pressure should be applied to the fundus uteri until it recedes, by the introduction into the vagina of one or more fingers of the left hand. Some recommend the pressure to be applied from the rectum. Others advocate the knee and elbow position as facilitating reduction. When reposition is accomplished, a Hodge's pessary should be employed to prevent a recurrence of the displacement. If reduction is impossible, we must resort to the artificial induction of premature labour, which may be effected by puncturing the membranes; but if the os is beyond our reach, we can, by means of the aspirator, draw off the liquor amnii through the uterine wall, and thus attain the desired result.

ARTICLE V.—*Case of Double Ovariotomy; Unusually Long and Twisted Pedicle; Note on the Question of Early Operations.* By J. MILNE CHAPMAN, M.B., M.R.C.P.E. (by Exam.), M.R.C.S.

(*Read before the Edinburgh Obstetrical Society, 28th March* 1883.)

IN presenting this communication to the Society, I would first take the opportunity of tendering my most sincere thanks to Dr Angus Macdonald for his valuable aid in arriving at a correct diagnosis of the case, his unselfishness in placing the patient in my hands for operation, and thus enabling me to perform my first ovariotomy, and for his kindly assistance during the operation.

The patient is 27 years of age, and has had five children. She has complained for a year back of frequently recurring severe attacks of pain in the right groin and in the back, and a month previous to operation she noticed a swelling in the right groin, which has gradually increased in size.

On examining her under chloroform there was found to be a tumour about the size of a child's head in the lower part of the abdomen, extending 6 inches above the level of the symphysis pubis. In form it was rounded, and it had a perfectly smooth surface. Only an obscure feeling of fluctuation could be detected through it. On vaginal examination the uterus was found to be pushed backwards and towards the right, and the sound entered it in this direction 2¾ inches. The tumour could be felt projecting into the front part of the pelvis, and it was so movable that it could be displaced by external manipulation till it lay above the level of the umbilicus. On pulling the uterus down by means of vulsella, the fingers could be made to meet around the fundus without encountering any pedicle; but, connecting the tumour with the right side of the uterus there was found to be a pedicle evidently at least 3 inches in length. To the left of the uterus there was an oval mass about twice the size of, and decidedly harder than, a normal ovary.

On 6th March, assisted by Dr Angus Macdonald, I performed abdominal section and removed both ovaries. The right one was cystic, and with its contents weighed about 4 lbs. The pedicle was fully 3 inches long, and was twisted 2½ turns (5 half turns) towards the left. That is to say, the front of the tumour had rotated in a direction forwards towards the mesial line, and then towards the back and along the back to the right, or, in other words, the twist was a back screw. These twists were undone, and close to the tumour there was found a notch-like constriction. The pedicle was transfixed and secured with silk in two pieces, one ligature being again taken round the whole mass. The left ovary was in such a doubtful condition that, after a brief consultation with Drs Angus Macdonald and Skene Keith, it was thought advisable to remove it, which was accordingly done, the broad ligament being secured in the same manner as was the pedicle on the right side.

No spray was employed, but carbolic solution was used for moistening everything which came in contact with the wounded surfaces. The wound was dressed with dry wadding loosely held in position by a flannel bandage. In a week the stitches were removed, and perfect union of the abdominal incision had taken place. During the three weeks after the operation there was never a higher temperature registered than 99°, and the patient returned to her home in Dundee on the 21st day.

In commenting upon this case I would first notice some points in regard to the diagnosis. Until a thorough investigation was rendered easy by the administration of chloroform the diagnosis was by no means clear, and it was impossible to say that the tumour was not connected with the uterus. By producing anæsthesia and by dragging down the uterus we were enabled to arrive at conclusions the accuracy of which was completely borne out at the operation.

The length of the pedicle was somewhat unusual, especially for such a small tumour. One of the objections to early ovariotomy that has been urged is the shortness of the pedicle during the early stages of cystic disease of the ovaries. The presence of a long pedicle, however, might almost be urged as an indication for speedy operation, as the recorded cases are not few where sudden death has been occasioned by the strangulation of an ovarian tumour, due to twisting, while, *cæteris paribus*, a long pedicle predisposes to twisting. The frequent attacks of pain from which this patient suffered were probably due to the condition of the pedicle, as there was not a trace of any inflammatory action in the peritoneum. Of this we had evidence, at the time of examination, by the fact of the tumour being so freely movable, a condition of matters which could hardly have held had there been peritonitis with its resultant adhesions. Indeed, the clinical history of the case, the results of the examination, and the fact of the tumour being on the right side, would almost have allowed a diagnosis of the condition during life.

Various explanations have been offered of the twisting of ovarian pedicles. Mr Spencer Wells[1] states that the "mere alteration from the erect to the recumbent position of the patient is enough to account for half a turn." Lawson Tait,[2] after showing that in the majority of cases it is right-side tumours that rotate, and that usually the twist is from within outwards and to the right side (a forward screw), deduces a theory as to the causation of rotation, viz., that it is due to "the alternate filling and emptying of the rectum. The fæces descending, the rectum will act as a wedge, and the point of application of the force will be the most favourable possible in the case of a right-side tumour." The case related above cannot have had such a causation, as the twist was in the opposite direction from what Mr Lawson Tait describes as the usual, but it may be that the bladder acted as the displacing force, pushing the left border of the tumour (upon which there was situated, close to the pedicle, an angular solid portion) backwards and then away from the mesial line. Of course, in the majority of instances, the tumour would regain its former position on the bladder being emptied; but occasionally, either from the rotation being pushed farther than usual or from the operation of some obstruction to the thorough restitution of the tumour, a half turn may have been accomplished and may have remained permanent, and by a repetition of such a process the degree of twisting found been brought about.

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[1] "Proceedings of the Obstetrical Society of London," in *The Obstetrical Journal for Great Britain*, vol. viii. p. 225.

[2] *Ibid.*, p. 223.

The unusual length of the pedicle probably prevented the occurrence of such accidents as inflammation of the cyst or hæmorrhage into it, which would in all likelihood have been occasioned by the twisting of a pedicle of ordinary length to the same extent.

The consideration of such a case as the foregoing suggests the question of when ovariotomy should be performed, early or late in the course of the disease. In regard to no other operation is there the slightest diversity of opinion regarding the time for operation. Given a stone in the bladder or a tumour in the breast, the sooner an operation is undertaken for their removal the better. But in regard to the performance of ovariotomy the advice generally given is far different. Dr Granville Bantock drew attention to this anomaly, and strongly urged that surgical interference should be resorted to as soon as a diagnosis was established, in a small book he published in 1881, entitled, *A Plea for Early Ovariotomy.* Perhaps, however, it might be better if, instead of, as he suggests, operating as soon as a clear diagnosis is established, interference were delayed till the tumour rose out of the pelvis, on account both of the greater ease with which the abdomen may then be opened, and of the greater likelihood of finding a well-differentiated pedicle. Mr Spencer Wells, in the last edition of his book,[1] has departed very considerably from the position he held in 1872 in his work on *Diseases of the Ovary,* where he states (p. 315), "So long as an ovarian tumour does not materially interfere with the appearance, prospects, or comfort of a patient, so long as no injurious pressure is exercised by it on the organs of the pelvis, abdomen, and chest,"—in fact, so long as the patient's general health remains unimpaired,—"the patient should be left undisturbed by any surgical aid." In the present edition of his work he says that, "as a general rule, any existing disease which in its natural course would prove fatal to the patient, or would influence her constitution in such a manner as to render her recovery very unlikely or other surgical interference inadmissible, should also forbid ovariotomy" (p. 264); but the only objection he offers to early removal is at p. 252: "It is possible to operate too early as well as too late—to place a patient's life in peril by operation before it is endangered by the disease. . . . A woman who has become accustomed to the confinement of the sick-room, has lost flesh, and has been brought by her suffering to dread the operation less than the disease, bears the removal of an ovarian tumour, even though large and adherent, better than one whose whole course of life is suddenly changed from the performance of ordinary active duties to the enforced quiet and confinement in bed which necessarily follow ovariotomy." But an ovarian tumour will *in all probability* have to be taken out some day, while its presence certainly renders life much more risky than it otherwise would be; so that, if this be the only objection which Mr Wells has to early operations, surely it would be worth while accustoming a patient, say for a month, to the necessary "quiet and confinement of a sick-room" before operating, rather than letting her go about her ordinary active duties with the sword of Damocles hanging constantly over her head in the shape of twisting of the pedicle, rupture of the cyst, formation of pelvic adhesions, or some other untoward occurrences. Nor is Mr Wells's simile between the relative positions and chances of an otherwise healthy woman subjected to the operation of ovariotomy and one on whom the operation is performed at a time when the disease has affected the general health, and those of a man undergoing a primary amputation for a railway smash, and one having his leg taken off for long-standing disease of the knee-joint, at all a happy or even an applicable one.

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[1] *On Ovarian and Uterine Tumours*, 1882.

In conclusion, I would make the following extract from Dr Bantock's book:—"The conclusions of Peaslee, West, Thomas, and Erichsen may be put into this form. We should not operate until the general health has become somewhat impaired (Peaslee); or, in any case, . . . until the disease has interfered with the patient's general health (West); or until the patient is failing in strength, and becoming emaciated, depressed, and nervous (Thomas); or until all other means of relief have failed, and the patient's health is giving way under the extension of the disease (Erichsen).

"I would, then, lay down the following propositions as more consonant with the first principles of scientific surgery, and as being justified by experience of the operation:—

"1. We should not wait till the patient's general health has become impaired; or, in other words, the principle of such delay is a departure from that generally followed in the case of other diseases treated surgically.

"2. The presence of the tumour is the cause of structural disease in other organs.

"3. Ovarian tumours are liable to a variety of accidents such as rupture, either from injury or spontaneously, and twisting of the pedicle; to morbid processes, such as inflammation, atheromatous degeneration of the bloodvessels, which, with fatty change in the walls of the cysts, lead to hæmorrhage into their interior, etc.

"4. The existence of adhesions, of degenerative changes in, and rupture, etc., of the tumour, greatly interferes with the success of the operation.

"5. On the contrary, the earlier and simpler the operation the greater is the chance of recovery."

ARTICLE VI.—*Acute Circumscribed Cutaneous Œdema.* By W. ALLAN JAMIESON, M.D., F.R.C.P., Lecturer on Diseases of the Skin, Edinburgh School of Medicine.

(*Read before the Medico-Chirurgical Society of Edinburgh, 4th April* 1883.)

WE are indebted to Quincke for the best summary of the disease to which he has for the first time given the name of acute circumscribed cutaneous œdema. In the July number for last year of the *Monatshefte für praktische Dermatologie* he published a paper with this heading, which attracted my attention, since the description there given of the class of cases which he included under it seemed to apply exactly to the symptoms manifested by a patient of mine. Her disease did not strike me as referable to any strictly limited class, and until I read Quincke's paper I was doubtful how to designate it. The lady who suffers from it has been under my observation for more than four years at intervals. For the last twelve months I have seen her frequently. It will be best, first, shortly to relate her case, and then to take up in succession analogous and related ones, so far as I have been able to collect them.

Miss M. E., 60, has been a governess with families in the country nearly all her life, and till rather more than seven years ago enjoyed good health. About that time, without any apparent cause, she became affected with pains of a rheumatic nature in the nape of the neck and shoulders. The parts did not swell appreciably, and the pains passed away. Soon, however, they located themselves in her right wrist, which was then hot, enlarged, and painful. Then the fingers of the right hand swelled at their joints, and the metacarpo-phalangeal articulations took on the same morbid action, which was plainly enough that known as rheumatoid arthritis. The joints of the feet became similarly affected, the right more markedly than the left. Two years ago the left hand was slightly involved, and in the spring of 1882 the right knee, which till now had remained free, was attacked, and six months after the left. The disease is quiescent at present (Feb. 1883), but many of the joints are swollen, stiff, and distorted. About the same time that the rheumatoid arthritis first showed itself she was annoyed with curious subcutaneous swellings, which always attacked the face, came on suddenly and at irregular intervals. The loose tissue about the eyelids was the most common seat of these swellings, but they attacked the lips, both upper and under, occasionally. At first they occurred at intervals of about four weeks, but soon became more frequent—once a week, very often on Sundays, or even more frequently still. When the eyes were to be involved, headache and some degree of feverishness were experienced, then a sensation as if of tension at the outer canthus, soon followed by swelling of the eyelid, which gradually spread from the outer side till in course of twenty-four hours the whole of both eyelids, and even some of the skin beneath, was distended with serum. The eye was completely closed by the œdema, and the watery-looking skin had a somewhat purplish hue. No itchiness, only a disagreeable feeling of tightness, was complained of. The swelling subsided gradually, as long an interval as five days occasionally elapsing before it had quite gone. Generally, however, the œdema had vanished in course of three days. When the lips were attacked the complaint came on during the night, and one-half or the whole of the lip was found enormously swollen on rising. The preliminary sensation of tension was not present when the mouth was affected. At times one or other cheek or the under part of the chin swelled. Once or twice the throat seemed to have been the situation involved by the œdema, for the fauces felt full, and swallowing was interfered with.

When I have seen the attacks the eyelids have usually been the parts affected; but once at least I saw the upper lip thick, doughy, and everted, but painless to touch. Rarely does a fortnight now pass without an attack. From the stiffness which has resulted from the arthritis, Miss E. seldom can go out, and has lost colour and flesh too, while her appetite is not so good as when she lived in the country and could enjoy easily pure air. Both arsenic and iodide of potassium, besides guaiacum and quinine, were prescribed on various occasions for the arthritis. Arsenic and blisters did most good, and at one time I thought the arsenic might be to blame for the œdema; but the attacks recurred just as often and as severely after it had been long discontinued.

Miss E. is a spare person, of medium height, and of an active and cheerful disposition. No marked disturbance of the general health has been noticed or remarked on by the patient.

Milder examples of the same disease are not very infrequent. Thus, an elderly lady, who till recently resided not far from Duddingston, sat out of doors under the trees one warm afternoon in summer. Next day, when I saw her, the upper lip was much swollen, the œdema having come on during the night. The lip was painless to touch, the sole annoyance being the stiffness arising from its enlargement. It subsided entirely in a day or two, and never recurred. In both these cases the condition closely resembled what is known as "swelling blight" in Australia, and of which I had seen a good many examples when in Queensland more than twenty years ago. The term swelling blight has been there given to acute circumscribed cutaneous œdemas affecting the lips and loose skin round the eyes, to distinguish the complaint from the dreaded "sandy blight," or purulent ophthalmia, in many of its characteristics like Egyptian ophthalmia, in which the eyelids become swollen consecutively to the conjunctival inflammation. Both forms of disease are popularly ascribed to the agency of flies —the swelling blight to the bite or puncture of some fly, the sandy blight to the irritation caused by some venomous fly lodging on the conjunctiva, or being the medium of conveying pus or other material which sets up violent inflammation. I was unable to find the mark of any puncture in the cases of swelling blight which I saw in Australia, and probably the causation is the same as in the two cases cited, where insects had nothing to do with its origin.

The disease is much more closely allied to urticaria or erythema, and very likely is the same as has been described by Mr Milton as giant urticaria. Milton described five cases in which swellings circumscribed in area appeared on different parts of the body. In four of the cases these nodules were hard on palpation, so that, besides serous exudation constituting œdema of the skin, there must have been plastic material exuded also. Various other skin diseases accompanied this eruption, as psoriasis, eczema, and pityriasis rubra. In one case the swellings were soft, simple œdemas. Itching and tingling were either absent or not prominent concomitants, so that the term used by Milton, as, indeed, he himself admits, was a provisional one, and that introduced by Quincke, and which I have adopted, is much better and involves no theory.

Under the cautious but misleading title, "A Peculiar Skin Disease," Dr Laudon of Elbing relates, in the *Berliner Klinische Wochenschrift* for 12th January 1880, the history of two cases similar to those described by Milton. In both the œdematous swellings, which affected consecutively many parts of the body, seemed to have been primarily induced by exposure to cold after sweating caused by violent muscular exertion. Both eventually became well after a duration of about ten weeks. Laudon thinks the nature of the disease consists in spinal irritation arising as a result of chilling and over-exertion. This led, in the recorded cases, to paralysis of the sympathetic, and particularly of those branches which supply the smallest arterial vessels, thus destroying their tone.

Duhring, in his work on skin diseases, alludes to a case recorded by Juler in the *Cincinnati Lancet and Observer* for January 1878, and Kemper of Muncie, Ind., relates, in the *Cincinnati Lancet* for October of the same year, some instances of urticaria in which there was marked puffiness of the face, eyelids, and sometimes of the extremities, especially in children attacked with malarial fever.

In these latter the sulphate of cinchonidia had been employed instead of quinine, and Kemper believes the urticaria was evoked by this salt. Quincke it is, however, who has given the most complete account we yet have of this curious disease, and I may here offer an abstract of his paper. It is characterized by œdematous tumefaction of the skin and subjacent cellular tissue in circumscribed spots, which measure from two to ten centimetres across. These, he says, are found most frequently on the extremities, particularly in the neighbourhood of the joints, also on the body and face, especially the lips and eyelids.

While the swollen portions may at times be reddish, they are quite as often of the natural hue of the skin, or pale and translucent. A feeling of tension in the places affected is usually complained of, but there is seldom any itching. Portions of mucous membrane may be attacked, as the lips, velum palati, pharynx, and entrance of larynx.

It has been inferred from the symptoms in one case that the gastro-intestinal mucous membrane may be attacked. In one instance repeated serous effusions into the joints took place. The swellings develop suddenly, as a rule in several places at once, reach their acme in an hour or two, and then as suddenly vanish after lasting from several hours to a day. The disease may, however, be protracted by the eruption of successive tumefactions. There is little constitutional disturbance. When the disease attacks an individual more than once, it assumes a milder form, and generally selects the same localities as at the first invasion. Such recurrences take place sometimes at varying intervals, sometimes every week, with almost typical regularity, throughout a series of years.

As exciting causes may be mentioned sudden chilling of the surface, catching cold, and excessive bodily exertion. The disease seems more frequent among men than women, and in one case was hereditary. As analogues of acute circumscribed cutaneous œdema, Quincke makes mention of menstrual œdema, the intermittent œdema following malarial fevers, and the so-called typical articular swellings.

With respect to treatment, since this ailment is chiefly troublesome by reason of its frequent recurrence, a careful regimen, especially in regard to diet, will often prove serviceable in the direction of prophylaxis. The attacks may sometimes be shortened by rest, foot-baths, and derivation to the bowels. Good results have been obtained from the administration of atropine.

To these observations of Quincke I have little to add; but a case of acute pulmonary œdema quite lately under my care may be referred, I think, to the same category. The patient was a servant in a comfortable situation, where the work was by no means severe. She was a little and perhaps not very robust girl of about nineteen, but she made no complaint of illness, went about her work very cheerfully, and ate well. She was not anæmic, and regular in all respects. She was occupied in cleaning an apartment one rather cold evening, and, when overheated and perspiring and somewhat tired, she spent some time in the open air in her indoor clothes. About eight in the evening she began to complain of dyspnœa, and her symptoms became so alarming that I was summoned at eleven. I found her sitting up in bed, her face a ghastly white, her hands cold; no moisture in her skin. Her tongue was dusky, as were her lips; thirst excessive and constant. She was very sleepy, but dared not lie down, for then an almost continual little cough became so incessant and severe, and a feeling of suffocation so imminent, that she instantly sat up again. She expectorated quantities of frothy sputum, watery in character, and tinged a pale pink. On percussing the thorax there was no dulness, but abundant fine crepitation was audible, even without direct auscultation, over the whole chest.

Altogether her condition was extremely grave; and one felt that, unless relief could be afforded soon, a fatal termination might occur ere long. I caused hot bottles to be applied, sinapisms put on the chest before and behind, and injected one-third of a grain of nitrate of pilocarpine subcutaneously. I remained with her nearly two hours, when, finding the expectoration was lessening and the cough becoming not so frequent, I left. When I saw her early next morning I was informed that, though she had not perceptibly perspired, she had become easier shortly after the injection of the pilocarpine, had slept a little, and towards morning had been able to lie down. She was breathing quietly when I saw her; the moist râles had nearly gone, and there was neither cough nor expectoration. In a couple of days she was in her usual health. The suddenness of the onset of the pulmonary œdema in a healthy girl exposed to cold after some exertion and overheating is quite analogous to those cases of cutaneous œdema which form the subject of this paper, where the attack was single or the disease died out after invading consecutively various parts. But that of Miss E. seems explicable only on the theory so fully elaborated by Dr Liveing, that of nerve-storms. Mr Jonathan Hutchinson has pointed out that chronic rheumatoid arthritis is in all likelihood "the expression, not of blood disease, but of disorder of the nervous system."

Miss E., it will be remembered, began to suffer from rheumatoid arthritis about the same time as the cutaneous œdema first showed itself, and both diseases, again, at a period of life when disturbances of the nervous system are extremely apt to manifest themselves in succession to the cessation of the menstrual function. Just then, as attacks of migraine have been shown by Liveing to be best explicable on the theory of a periodically recurring instability of equilibrium in the nervous system, culminating in an explosion or nerve-storm—the sick headache with its associated phenomena

—which, metaphorically, clears the atmosphere for some time to come, so, in Miss E.'s case, there seems to occur periodically, at more or less definite intervals, a disturbance of the balance between secretion and absorption normally maintained by the nervous system, resulting in the localized œdemas. Habit probably renders resistance weaker in certain paths, and so permits of the reproduction of the tumefactions in the same localities, which, in her case, are those supplied by the trigeminus, the cerebral nerve which of all most closely resembles the spinal. This theory, too, explains why treatment avails so little in such cases.

ARTICLE VII.—*Surgical Experiences in the Zulu and Transvaal Wars*, 1879 *and* 1881. By D. BLAIR BROWN, F.R.C.S. Edin., Army Medical Department.

(*Continued from page* 983.)

GUNSHOT INJURIES OF THE SHOULDER.

IN modern tactics the shoulder becomes a much more frequently injured region than any other except the head. Not many years ago it would have been thought cowardly to lie down and take every available means of shelter when advancing against an enemy, while now it is the recognised custom. At any field day in ordinary peace times the movements by "rushes" can be seen, and the prostrate positions assumed by the troops at intervals, as well as the rapid formation of shelter trenches by the free use of the spade. Such is the characteristic of modern "attack" against a civilized foe. The long range and the accurate aim of modern rifles as compared with the old smooth bore guns render such proceedings necessary. For this reason it is found that a large portion of our most serious cases are wounds of the most exposed shoulder, that is, the left one, in a fair stand-up open fight, and the right one, in "laager," "recumbent," or "entrenchment" firing. In most of the "laager" fights in the Zulu war, as well as the engagement of the Ingogo in the Transvaal, the frequency of such injuries was considerable. In the first of these engagements the fighting took place from behind the shelter afforded by large bags of maize or earth which had been skilfully arranged for the purpose; while at the Ingogo numerous large boulders which fringed the border of the plateau held by our men, served a similar, though not so complete a purpose. It is most important that settled opinions should be formed concerning the military surgery of the shoulder. If the eye be taken as the guide in forming an opinion as to the implication or non-implication of any joint, it is a very misleading one. This is almost as much the case with regard to round as to conoidal balls. In the shoulder we have a complex portion of the framework to deal with. There is the ball-and-socket joint surrounded by numerous firm bony processes, the head and shaft of the humerus, the clavicle, coracoid, and acromial processes, and the spine and blade of the scapula. Add to this the numerous strong muscles and tendons arising from or attached to any of these, and the difficulty of a bullet being able to penetrate the joint is seen to be considerable. Professor Longmore says, with regard to the shoulder and elbow joints, that "expectant surgery is more fatal, and the results less satisfactory, than after resection." As in all cases of injury near joints, the earlier the diagnosis as to the exact nature of the injury (by the most thorough physical examination if need be), and the earlier the right treatment is adopted, the less will be the sufferings of the patient, and the more useful the result of whatever is done. There was a very common occurrence in the Boer war, of which several examples are here recorded, calling for serious consideration. Conoidal bullets hit at great velocity and penetrated the shoulder, often injuring the clavicle, some process of the scapula, and the blade as well, and then escaped. After the sequestra and bony *débris* had come away, by nature's aid, through the influence of suppuration, a certain degree of caries and necrosis was generally found to be present in and around such injuries. When such wounds are probed no loose bones are found, therefore the orthodox treatment is to let them alone. Now, it is this treatment I wish to prove to be wrong. If the following cases, in which such symptoms were present, teach anything, it is that operative means should be adopted to remove these carious and necrosed portions of bone. They ought not to occur, but, being present, they should be at once removed. But then, after taking such parts away with bone-pliers or saw, what do we leave ? say some. Certainly not uninjured, but healthy bone, which, if the rules of wound-draining be attended to, will at once go through the quick and natural course of healing. Contrast this with the months, even years, through which cases not so treated drag their weary course. For a time they partly heal up, and then start afresh in their cruel career, until one sequestrum after another is thrown off, and nature has effected a cure by the total destruction of all the bone in the neighbourhood. The limb all this time being useless, the muscles glue themselves together through the inflammatory exudations thrown out, muscular atrophy takes place, fixation of the joint results, and, with the exception of the fingers, the arm is of little or no service. The chances of one of the many severe inflammatory attacks, which accompany the blocking up the free exit of the pus from the presence of such fresh sequestra, being followed by any of the alarming symptoms of blood-poisoning is an additional danger. In addition, there is the constant open wound, the continual careful dressings and anxious attentions, and the drain on the system from the pus formed and evacuated, and the chances of erysipelas, etc. Every surgeon with such cases under his care would consider the knife is cruelly withheld in their early history; and I have not met with a single such patient who would not willingly undergo anything to get radically well, so tired and disheartened do they become. Unfortunately, radical action then cannot do what it most certainly could earlier, namely, procure a *useful* limb. I shall now detail a few cases of gunshot injuries to the shoulder which occurred at Rorke's Drift and Ulundi in the Zulu war, and go more fully into those, which were more complex, occurring in the Boer war.

CASE I.—No. 1362, Private F. H., of the 2nd 24th regiment, was hit, during the defence of Rorke's Drift, in the right shoulder. The bullet entered near the base of the scapula, having been fired from the hills opposite to which he was fighting. The bullet made its exit over the bicipital groove in the humerus. There was great swelling of the whole shoulder when seen by me on the 26th of January 1879, and ecchymosis. The tract of the wound was sloughing. Poultices and cold water sufficed to allay this, and the case did well.

CASE II.—Corporal C. S., of the 1st battalion 2nd Co. Natal Native Contingent, was wounded at Rorke's Drift. The bullet hit the back of the head at the posterior margin of the left sterno-mastoid at its origin, and took a course towards the middle of the scapular base, where the bullet lodged subcutaneously, from which position it had been removed when I took charge of him on the 26th January. Here also the whole shoulder was greatly swollen and painful, requiring poultices. This case, after the usual slough came away, got well.

CASE III.—No. 1240, Corporal W. A., of the 2nd 24th regiment, was hit, at Rorke's Drift, in the right shoulder. The bullet entered near the insertion of the deltoid muscle to the humerus, and made its exit at the upper and inner angle of the scapula. The bullet appears to have passed under the scapula, no bone or joint being touched. This wound sloughed and then very rapidly healed up.

CASE IV.—Acting Assistant-Commissary D. was hit in the right shoulder at Rorke's Drift when busily engaged forming the "laager," which he had originally commenced, and to which was due the safety of the place. The bullet entered about half an inch above the middle of the clavicle, and made its escape posteriorly at the lowest border of the trapezius muscle. The course taken was curious, regularly running round the shoulder and down the back, escaping all the important structures. The wounds, like all those received at Rorke's Drift, were wide and open and sloughing when seen by me on the 26th January. After the slough came away the usual tenax was applied. The whole of the field medical equipment having been captured by the enemy at Isandhlwana, I had no antiseptic to use. I thought of quinine, which I knew was a wonderful preserver of animal tissues, and used a solution of that, experimenting in this case. It seemed to answer, as the wounds got well after being injected several times with it. My subsequent experience, however, is that the wound would have done as well without it.

CASE V.—No. 447, Private J. W., of the 1st 24th regiment. This man had been left behind by his regiment (the one annihilated at Isandhlwana), as he was fulfilling the duties at Rorke's Drift of an hospital orderly. During the fight he was hit in the right shoulder. The bullet entered the deltoid muscle about its lower third anteriorly, and lodged opposite the surgical neck of the humerus posteriorly, where it had been cut out. On probing this wound no bone was felt, and after the usual sloughing it healed. In every case the projectile found was an ordinary round one, and the nature of the injuries tend to show that they were all produced by similar bullets.

CASE VI.—No. 1979, Private W. B., of the 21st regiment, in the square at the battle of Ulundi, was in the act of loading his rifle when he felt a thud on his shoulder. So great was this, as also the numbness which immediately succeeded in his arm, that at first he thought it was completely blown off. The bullet entered immediately above the sterno-clavicular articulation on the right side, and, taking a transverse direction towards the acromion process of the scapula, lodged. From this position, after having to cut deeply, I removed it. It was a mass of lead roughly hammered into a round form. For some days the whole shoulder was ecchymosed and much swollen. The case recovered.

CASE VII.—No. 564, Sergeant J. M'N., of the 94th regiment, was in one of the reserve companies in the square at Ulundi, in its "rear face," and he left his place for a little to point out a body of Zulus coming down a hill to one of his brother sergeants in the front rank; while so pointing with his arm extended, he was hit in the shoulder, right over the head of the humerus. No wound of exit. Numerous attempts had been made to find the bullet. Though no probe could reach it, knowing it must be there, I freely opened up the locality, and found it very firmly impacted in the head of the bone, and, aided by the "elevator," extracted it. It was a large Enfield rifle bullet, which, from the absence of groovings on its surface, proved it was fired from a smooth bore gun.

In the surgery of the Boer war cases of injury to this region were more complex. In no instance could the difference be so well seen, as in these wars, between the effects of round and conoidal bullets striking muscular or bony tissues. Amongst six cases of gunshot injuries to the shoulder I examined, caused by conoidal bullets, in the Boer war, where there were distinct cicatrices of wounds of entrance and exit, I found no injury to any important part whatever, and the wounds had healed without trouble. My friend and confrère Surgeon-Major James Scanlan drew my attention to one which was thought by many a case of joint perforation, in which recovery had taken place. We both agreed, after most careful examination, that such had not been the case. The wounds being still open, the probe passed quite away from the joint. I afterwards saw another case, a soldier who had been made a prisoner by the Boers and taken to Heidelberg and compelled to work. His shoulder presented similar cicatrices, and, considering the course a conoidal ball would probably take, little doubt would have been entertained regarding the penetration of the joint. This case was examined by several of my colleagues at Newcastle when the man was temporarily in hospital on his way down country. The patient stated "they had no doctor to look after them, and all they did was to go down regularly to the river and wash their wounds." Looking at the result, it could not have been more perfect.

The following two cases, having much in common, terminated so differently, that they may prove instructive:—

CASE VIII.—No. 3771, Private G. S., A.H.C., was shot in both shoulders when dressing a wounded man on Majuba Hill. Was treated afterwards at Newcastle. One bullet entered the right shoulder just above the clavicle, and made its escape posteriorly over the scapula immediately above the middle of its spine. He was also hit on the left side. The bullet entered near the inner margin of the deltoid muscle, and made its exit posteriorly at the glenoid ridge of the scapula, again without injuring the bones or joints. Here were two wounds fairly through the shoulders, and the bullets taking most marvellous courses for conoidal ones, which, from the nature of the wounds, they must certainly have been. The wounds healed rapidly, and there was no difficulty in the movement of the arms.

CASE IX.—Major M. was struck at Majuba Hill. The bullet entered through the upper half of the right clavicle, going through and escaping beneath the spine of the scapula. The clavicle was found, when I first was asked to examine him, to be partially smashed. A ridge, however, at the under surface was intact; the bullet had furrowed its way through. Several loose portions of bone were found. Posteriorly the probe found the scapula penetrated, a considerable hole existing in the blade, and quite a quarry of fragments of bone existed between the scapula and the wall of the chest. There was immense tumefaction and suppuration in the surrounding parts and the wound. The loose fragments were removed, and an examination performed under chloroform. I found for quite half an inch round the hole in the scapula that it was devoid of life. My finger passed right through and in front of the scapula, and could feel the state of parts well. The results of the inflammatory action were spreading to the joint, and it was quickly becoming stiff. I advised a free exploration, and, if necessary, the excision of all implicated tissues. In this opinion I was fully borne out by the medical officer in whose care the patient immediately was. This was not permitted. Crop after crop of bony *débris* crumbled off the scapula, the gradual caries and necrosis went on, one outburst after another of acute suppuration, accompanied by high temperature, great tumefaction and swelling of the shoulder, and consequent emaciation, succeeded. Then the injured clavicle threw out an immense amount of callus, and afterwards a sequestrum therein appeared, setting up fresh inflammation, which was ultimately taken out in England. I saw him just before this was done, on my return home. The wounds were healing and breaking out as usual fifteen months after the injury, and the probe detected the loose bone in the clavicle and the bare bone in the scapula. I also found that by the gradual weakening through diseased processes in the scapula the glenoid cup had become separated from the rest of the bone. The arm was atrophied and comparatively useless. He had some use in his forearm and hand, which he carried in a sling.

Here were two cases occurring on the same occasion, from the same enemy, and from like bullets, and yet how different were the effects produced in the shoulders—in the one case the bullet behaving almost in the way round ones are known frequently to do, and in the other penetrating in a direct line every obstruction it met.

CASE X.—No. 201, Corporal M'K., of the 92nd Highlanders, was hit, on the Majuba Hill, in the right shoulder, the bullet entering posteriorly near the upper angle of the scapula, close to the vertebral column, taking a course beneath the scapula, and part of it lodging. The bullet seems to have become broken, for one portion made its exit at the posterior edge of the insertion of the deltoid muscle in the arm. Taking for granted that because there is a wound of entrance and exit the whole of the projectile has escaped may lead to error in some cases. In this instance this was done, and in another I overlooked the presence of a bullet myself. My attention was called to an easily felt mass over the scapula; and receiving from the patient and the attendants a history of a severe blow by the butt end of a rifle on that part, without further examination I concluded it must be a broken-off portion of the angle of the scapula. There were no less than eleven cicatrices, the result of abscesses, around this man's shoulder when I saw him in England fifteen months after the injury. These, besides being over the shoulder, extended down two-thirds of the arm. On then examining this case I discovered a large piece of the bullet lying in the arm, and which I saw at once removed. Here the probe found, as in the former cases, considerable evidence of bare but no loose bone. The progress of the case was similar to the others, and the patient's patience was quite exhausted.

CASE XI.—No. 2172, Private M. S., of the 94th regiment, was wounded on the 19th February 1881 at Marabastad, one of the besieged garrisons in the Transvaal. The fort was built of stone and sand, and while on duty as a sentry he saw a Boer fire from a neighbouring hill quite one thousand yards away, and in a few seconds a bullet passed through a loophole in the fort's wall and hit him in the shoulder and there lodged. He was stationed at a corner of the fort, with a loophole on either side of him, and he thinks the projectile must have entered at one loophole and hit him as he was looking out of the other. The bullet entered obliquely at the middle of the glenoid margin posteriorly, passing beneath the scapula and lodging at the spine of the third dorsal vertebra, from which it had been extracted. I was first asked to see this case on the road between Newcastle and Maritzburg. I was in charge of a convoy of wounded passing down country, and overtook the convoy of which this man was a member. This was in August 1881. I made out the following conditions:—Numerous abscesses existed all over the scapular region. On probing, several loose sequestra of bone were felt. Anteriorly similar abscesses existed in the infra and subclavicular regions. A large one extended over the sterno-clavicular articulation, from which several pieces of bone had come. A probe passed closely round, but not into, the capsule of the joint. I considered it a case even then for immediate excision of the joint and removal of all bare and loose bone. I next saw the case in England in April 1882—fourteen months after the injury—and I found him in the following conditions:—One abscess after another continued to form, often accompanied by severe febrile attacks, great tumefaction and swelling of the shoulder, etc., as in the other cases. The opening at the sterno-clavicular articulation, as also the wound of entrance, were open and discharging very foul-smelling pus. The probe came on quantities of bare but no loose bone, and went down towards, but not into, the glenoid cavity. The shoulder-joint was quite stiff, and could not be moved without also moving the scapula. Ten cicatrices, the result of abscesses, posteriorly, and two anteriorly, existed, showing the ineffectual struggles nature had made to throw off the injured and diseased tissues. When I last saw the case—12th June—a fresh abscess had formed an inch below the clavicle, which I caused to be opened, giving exit to a large quantity of the most fetid pus. The case dragged its weary course along, and the man's patience was exhausted, so that he was willing even to lose his arm rather than go on as he was. The bullet which produced this injury is in the patient's possession. It is an Enfield rifle one, weight 1 oz. 16 grs. It is greatly misshapen and deeply grooved, so much so that I do not think any bone in the body could have offered sufficient resistance to have caused such an alteration in shape. It is highly probable that it hit the side of the loophole through which it passed before lodging in the man's shoulder.

(*To be continued.*)

ARTICLE VIII.—*The Examination of Deaf-Mutes.* By DR KIRK DUNCANSON, Lecturer on Diseases of the Ear, School of Medicine, Edinburgh.

(*Continued from page* 1004.)

No.	Name and Birthplace.	Age.	Cause.		Condition			Hearing power.		Family History and General Observations.
			Congenital.	Acquired.	Of the Drumhead, E.A.M., and Auricle, etc.	Of the Nose.	Of the Pharynx.	Bone Conduction.	Aerial Conduction.	
78.	J. H. S., Lanarkshire.	8	Cong.		M.Ts. cicatricial-looking. Manubrium prominent in R. L. chalky deposit in inf. segment.			Politzer heard in both from mast.	Hears vib. T.-F. in front of R. and Politzer's acoumeter. Hears high note shouted in R.	An illegitimate child.
79.	I. C. S., Perth.	8		From "inflammation of head" at 1¾ year.	Plug of cotton-wool in R. E.A.M., completely covered and impregnated with cerumen. M.Ts. deep, dull, opaque. R. vascular.			Hears vib. T.-F. C from bones.	Hears vib. T.-F. in front of both.	"Lost her right eye from inflammation of the head" when one year and eight months of age. The second child in the family. Cataract in R. eye, with synechia.
80.	M. R., Perthshire.	11	Cong.		M.Ts. deep, dull, small, tense.			Vib. T.-F. Mi$_3$ heard equally in both from mast. and teeth.		One brother and one sister deaf-mute.
81.	M. G., Ayrshire.	13	Cong.		M.Ts. white, opaque, deep.			Vib. T.-F. heard in both from teeth and masts.		One sister, younger, deaf-mute. Head large.
82.	M. T. P., Berwick-on-Tweed.	13		Lost her hearing fr. disease of spine.	M.Ts. deep, vascular. Chronic hyperæmia.				Hears vib. T.-F. in front of both ears.	A delicate child, suffering from antero-post. spinal curvature in dorsal region.
83.	M. T. P., Fife.	9	Cong.		M.Ts. deep, white, opaque.	Catarrh.	Tonsils enlarged. Catarrh.	Vib. T.-F. heard best from teeth.		
84.	C. B., Leith.	9		Fr. scarlet fever at 4½ years.	L.M.T. gives a double light spot, one upwards, the other downwards, from umbo. Both M.Ts. cicatricial.			Vib. T.-F. heard from bones alone.		Suffers much from chilblains. A slow girl. Nine children in family. No others and no relations deaf-mutes.
85.	E. T., Roxburghshire.	9		Fr. typhoid fever.	Wax in both E.A.Ms. M.Ts. small, deep, but normal markings.			Hears vib. T.-F. from bones, not heard in front of ears.		Strumous.
86.	E. M'R., Perthshire.	9		Fr. "fits" when 14 mos. old.	M.Ts. deep, white, normal markings, thickening around umbo in both.			W. $\frac{30}{30}$ and vib. T.-F. Ut$_3$ heard fr. mast. and teeth.	Hears vib. T.-F. Ut$_3$ at a distance of 1 in. in front of both.	Eight children in family. One sister deaf-mute.

87.	M. H., Ayrshire.	15	Cong.		M.Ts. small, normal markings.			W. heard in L. from teeth. Vib. T.-F. in both from bones and teeth.	Hears vib. T.-F. in front of left.	Illegitimate. Father has a brother deaf-mute.
88.	B. R., Edinburgh.	10	Cong.		M.Ts. deep, small, normal markings; membranæ flaccidæ prominent.			W. heard on firm pressure over left mastoid. Vib. T.-F. heard well from bones in both.		Family of nine. One sister deaf-mute; one brother blind.
89.	M. J. G., Ayrshire.	8	Cong.		M.Ts. deep, entire, normal markings.			Hears vib. T.-F. from bones.	Vib. T.-F. heard in front of both.	Family of five. One sister deaf-mute, No. 81.
90.	D. B., Lanarkshire.	8	Cong.		M.Ts. good lustre, transparent. Light reflex small.			W. heard from masts. Vib. T.-F. from bones in both.	Hears vib. T.-F. in front of both.	
91.	M. A. M., Clackmannanshire.	7		Fr. fever.	M.Ts. deep, tense. Light reflex small. Catarrh of both tympana. L.M.T. more concave than R.			W. heard on pressure over auricle, and vib. T.-F. from bones in R. only; not in left.	Hears vib. T.-F. in front of R.	Teeth carious. Incisors notched.
92.	H. M., Linlithgowshire.	6	Cong.		Wax in both E.A.Ms. M.Ts. with normal markings, but small.		Catarrh.	Hears W. and vib. T.-F. in R.	Hears vib. T.-F. in front of R. Hears loud, high note of voice.	Teeth "peggy."
93.	E. C.	7	Cong.		M.Ts. very deep, small, opaque, and tense.	Catarrh.	Catarrh.	Hears vib. T.-F. in both.	Vib. T.-F. heard in front of both.	Father deaf-mute.
94.	H. A., Alloa.	9		Fr. scarlet fever.	M.Ts. gone. Meats. swollen and narrowed, irritating sanious discharge escaping from orifice. Large pieces of carious bone lying deep and firm in meats., which, when removed after they had become looser, were found to be considerable portions of petrous portion, embracing part of cochlea and osseous semicircular canals; the latter were, however, slightly injured by removal.	Running nose, irritating secretion.				Watery eyes. Pediculi (P. corporis, P. capitis) cannot as yet be overcome, notwithstanding the greatest cleanliness and use of parasiticides.
95.	W. G., Edinburgh.	9	Cong.		Wax in both.					Idiot. Parents cousins. Family of seven. One uncle deaf-mute.
96.	C. M., Caithness-shire.	17	Cong.		Wax in both. M.Ts. very normal-looking.			Hears vib. T.-F. fr. bones and teeth.	Hears vib. T.-F. in front of both ears.	Seven children in family. Another one deaf-mute.
97.	E. P., Selkirkshire.	15	Cong.		R.M.T. white, central opacity, lustreless. L.M.T. much the same as R.			Hears vib. T.-F. best in L.		Internal strabismus of R. Five children in family. Another one deaf-mute.
98.	M. A. R., Selkirkshire.	13	Cong.		Wax in both E.A.Ms. M.Ts. normal appearance, deep.		Catarrh.			One sister deaf-mute. Six children in family. No other relations deaf-mute. Parents not related. Carious molar tooth, with large swelling of jaw-bone.

EXAMINATION OF DEAF-MUTES.—*Continued.*

No.	Name and Birthplace.	Age.	Cause.		Condition			Hearing Power.		Family History and General Observations.
			Con-genital.	Acquired.	Of the Drumhead, E.A.M., and Auricle, etc.	Of the Nose.	Of the Pharynx.	Bone Conduction.	Aerial Conduction.	
99.	J. W., Stirlingshire.	14	Con.?		Auricles small, conical. Wax in R. E.A.M. M.Ts. much driven in. Manubria prominent. Meats. shallow.			Hears vib. T.-F. best in L. from bones.	Hears W. 3 in. in front of L. Vib. T.-F. in front of both, and vib. T.-F. on table 6 ft. away from R.	Chorea. Has been much neglected. Mother deaf-mute.
100.	E. H., Edinburgh.	14		Fr. "swelling in the head" when 3 mos. old.	Wax in both E.A.Ms.		Catarrh.	W. and vib. T.-F. heard from bones and teeth, best in L.	Hears vib. T.-F. 3 in. in front of R. in front of both.	Parents not related. Nine children. No others and no relatives deaf-mute.
101.	H. P. M., Fife.	13	Cong.	Fr. "fever at 5 mos. old."	M.Ts. deep. Membranæ flaccidæ bulging.			Hears vib. T.-F. fr. bones and teeth, best in left.	Hears W. and vib. T.-F. in front of both, best in L.	Cause of deaf-muteism doubtful. Four children in family. No others and no relations deaf-mute.
102.	C. M., Wick.	13	Cong.		Wax in L. E.A.M. M.Ts. white, opaque.			Hears vib. T.-F. fr. bones and teeth.		An illegitimate child.
103.	M. H. R., Selkirkshire.	11	Cong.		Wax in R. E.A.M. M.Ts. opaque. Short process prominent.			Hears vib. T.-F. from bones in both, best in L.		Sister of 98.
104.	M. B. F.			Fr. scarlet fever.						
105.	J. C. W., Fife.		Cong.							Parents cousins. Eight in family. First three children have all their senses, healthy. Next four are healthy, but deaf-mutes, youngest delicate and "dull of hearing" Third child, girl, died of disease of brain about age of twenty-four. Father dead.
106.	E. M. W., Fife.									Sister of 105.
107.	E. W. G., Leith.			Fr. Meningitis.						Scrofula. Father dead. Learns to speak. Oral system.
108.	E. M.				Auricles drooping. Wax in both E.A.Ms. M.Ts. moist, and normal markings. Membranæ flaccidæ prominent.		Catarrh.	Vib. T.-F. is heard from bones.	Hears vib. T.-F. in front of R.	

ARTICLE IX.—*Quarterly Report of the Royal Maternity and Simpson Memorial Hospital.* By ALEXANDER RUSSELL SIMPSON, M.D., F.R.S.E., Professor of Midwifery and the Diseases of Women and Children in the University of Edinburgh, and President of the Edinburgh Obstetrical Society.

(*Communicated to the Edinburgh Obstetrical Society, 28th February* 1883.)

DURING the quarter from 1st November 1882 to 31st January 1883 the duties of house surgeon were fulfilled by Mr Keppie Paterson, M.B., at first in conjunction with Mr Alfred P. Hillier, M.B., and later with Mr A. Stuart Bowman, M.B. The report I now present has been kindly drawn up for me by Dr Paterson.

INTERN CASES.

During the quarter there were 63 women delivered in the Hospital. Of these there were—i.-paræ, 34; ii.-paræ, 16; iii.-paræ, 5; iv.-paræ, 2; v.-paræ, 3; vi.-paræ, 2; ix.-para, 1. 18 were married; 45 unmarried.

Average Age.—Primiparæ, 21 years 5 months; multiparæ, 27 years 9 months. The youngest primipara was 15; her labour was natural, and she did not appear to suffer much pain.

Average duration of labour was as follows:—Primiparæ, 1st stage, 16 h. 20 m.; 2nd stage, 1 h. 31 m.; 3rd stage, 17⅔ m.; whole labour, 18 h. 10½ m. Multiparæ, 1st stage, 10 h. 35½ m.; 2nd stage, 41¾ m.; 3rd stage, 17 m.; whole labour, 11 h. 37 m. The averages of the 3rd stage do not include 2 cases of adherent placentæ, which occupied 1 h. 20 m. and 1 h. 10 m. respectively.

Presentations.—Primiparæ: vertex, 31; breech, 2; brow, 1. Multiparæ: vertex, 29; breech, 1.

Positions.—L.O.A., 37; R.O.P., 16; R.S.A., 1; L.S.P., 1. In a case of hypertrophied cervix the position was transverse. Unascertained, 8. In 4 cases the occipito-posterior position was persistent—*i.e.*, 1 in 4.

Sex of Children.—Primiparæ gave birth to 22 male and 12 female children; multiparæ to 17 male and 13 female. In a case of twins both were female. Full-time male children weighed 7 lbs. 6⅔ oz., and were 19 inches in length, on an average; female, weight 7 lbs. 3⅙ oz., and length 18½ inches. Average weight of placenta was 1 lb. 7 oz., and the average length of the cord was 22¾ inches; the longest, 41 inches, occurred in a case of prolapsus funis. Premature labour took place in 7 cases: 2 at 7½ months, and 5 at 8 months. The breech presented in 2 cases; the rest were vertex.

Mortality.—*a.* Maternal, 2: 1. From post-partum hæmorrhage, where the placenta was retained and adherent, and the uterus in hour-glass contraction—details below. 2. Case of sudden death on the fourth day of puerperium—detailed below.

b. Infantile, 2: 1. Child premature, 7½ months; syphilitic; died

20 m. after birth, from ascitic distention of the abdomen preventing respiration. Its heart was beating, but it only made a few inspiratory gasps.[1] 2. Child, 8 months; died from the effects of hæmorrhage from the cord.

c. Fœtal, 5: 1. Child full time; forceps were required for its delivery; death occurred during labour, from compression of the cord between the head and pubis. 2. Child died during labour from prolapsus funis. 3. Child on which basilysis was performed. It had been dead for a few days before labour; cause unknown. 4. and 5. Both 8 months and syphilitic; had been dead for some time; placentæ fatty.

Classification of Labours.—Natural, 44; laborious, 9; præternatural, 3 (breech); complex, 7. In one of the natural labours the hymen was persistent, elastic, complete, and with a nearly circular aperture towards the right and posterior portion which admitted one finger easily. The hymen did not obstruct labour, as it gave way when the head reached the floor of the pelvis.

Laborious Cases.—1 was lingering labour; 8 instrumental.

Instrumental.—Basilysis, 1, for hypertrophic elongation of the cervix; was the subject of a special communication to the Society on the 10th January. Forceps were applied for the delivery of 7 children—6 male and 1 female; *i.e.*, 1 in 9 cases.

High forceps, 3 cases: 1. Primipara, 24; L.O.A. 1st stage lasted 65¾ h.; forceps were applied for large and rather strongly ossified head; and the brim of pelvis was contracted equibiliter justo minor. Child died during labour, from compression of cord between head and pubis. Mother well.

2. ii.-para, 34; R.O.P. Patient was admitted in labour. The parts were hot and dry. 1st stage, 10 h. Forceps were applied 1½ h. after commencement of 2nd stage, as little advance was being made, though the pains were strong. There was some contraction at the brim. Mother and child well.

3. Primipara, 19; L.O.A. Os very rigid. 1st stage lasted 59½ h. Forceps applied 4 h. after completion of 1st stage, for rigid os and inefficient uterine action.

Low forceps, 4 cases: 1. Primipara, 24; eighth month; R.O.P. Forceps were applied for non-rotation with commencing inertia. 2nd stage, 4 h. Mother and child well.

2. Primipara, 19; L.O.A. Large head and rigid perineum necessitated the application of forceps after the 2nd stage had lasted about 3 h. Mother well. Paralysis of the left cheek of the child followed, but it disappeared in a few days.

3. Primipara, 18; R.O.P. Flexion was not marked; head descended to the floor of the pelvis, and did not rotate. Forceps applied 2 h. after dilatation of os for threatening inertia. Mother and child well.

4. Primipara, 17; L.O.A. Patient was suffering from chronic

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[1] Exhibited to the Society on the 10th January.

bronchitis, which prevented her bearing down; perineum tight. Forceps applied for commencing inertia. 2nd stage, 3 h. Mother and child well.

The perineum tore in 9 cases: 1 a multipara; the others were primiparæ. Stitches were inserted in 6, and all healed satisfactorily, with the exception of one where the stitches gave way.

Complex Cases, 7. 1. Twins. One case in a ii.-para, 22. Labour occurred prematurely at the end of the eighth month. The vertex presented in both cases. First child, the less, was born face to pubis; second child, L.O.A. Both children female. Placentæ united, but there were separate bags of membranes.

2. Eclampsia.—iii.-para, 34. Legs distinctly œdematous, and the urine contained ⅓ albumen. Patient dull and heavy. During the 1st stage patient had one fit, but they did not recur. 1st stage, 31 h. 50 m.; 2nd, 5 m., consisting of only two pains. Child healthy. On dismissal there was ⅛ albumen in the urine, and the cutaneous œdema had disappeared.

3. Adherent membranes and post-partum hæmorrhage.—i.-para, 21. Uterine pains during 2nd stage were defective, and labour was assisted by strong manual pressure to the uterus. 2nd stage, 4 h.; the placenta was expelled in 15 m. Part of the membranes remained adherent, and while being extracted hæmorrhage came on, but was stopped by pressure, ergotin, and intra-uterine douching with hot carbolized water. Mother and child well.

4. Prolapsus funis.—i.-para, 21. On admission, the head of the child was found at the floor of the pelvis, with about a foot of the cord hanging from the vulva and to the left side. Cord was pulseless. Pains were weak. The vertex presented, and the head was born with the occiput posteriorly. The stench on admission was intense, and became worse after delivery of the body, when the liquor amnii, stained with meconium, was expelled. Pelvis large and roomy. The child, on examination, was found to have a large caput succedaneum covering the upper part of the left frontal bone. The skin over the swelling was abraded. Parietal bones were overlapped by the occipital and frontal. There was a depression on the right temple. The whole face was elongated to the right downwards; nose flattened, and directed to the right. The surfaces in apposition, from flexion of the legs upon the thighs and the thighs on the abdomen, were pale, and there was a red congested line running along the edges of the surfaces. There was the same appearance on the arms. In some places there were blisters along these lines on the arms and legs, especially on the elbow of the left arm. It was probably an R.O.P. position, with extension of the occiput, causing a brow presentation, and converted into a vertex during labour. The cord, 41 inches long, had probably prolapsed with a gush of liquor amnii which, according to the patient, took place sixty-eight hours before delivery. The uterus had contracted tightly on the fœtus, causing the blood to be

sent to the edges of the surfaces of skin apposed on flexion, and in some places pressing the serum out beneath the cuticle. Puerperium good.

5. Placenta prævia.—iv.-para, 28. Her first two labours were natural, but in the third the nurses could not get away the placenta, and had to send for assistance. The patient never had any abnormal discharges when not pregnant. Six days before labour, patient, while at her own home, had a sudden flooding. The house surgeons saw her shortly afterwards, and found the placenta presenting. She had not felt any pain. The bleeding had stopped, and as there had been no recurrence she was removed to the Hospital. There was slight oozing for the next five days, when labour came on, hæmorrhage occurring with each pain. The cervix was dilated with a Barnes's bag. The placenta was found presenting, three-quarters being attached to the posterior wall, and one-quarter on the anterior. Dilatation by the bag had caused detachment of the anterior portion. The child was then delivered by turning. Patient lost very little blood after dilatation of the os. Mother and child well.

6. Adherent placenta.—ii.-para, 23. Child born by natural powers. In about 10 m. after, expression of placenta was tried, first with one, then with both hands, and then with patient under chloroform, but failed. The fingers were inserted into the uterus, and the placenta separated, which was found to be partially but not extensively adherent. 3rd stage, 1 h. 10 m.

7. Adherent placenta; hour-glass contraction of uterus; post-partum hæmorrhage; death.—C. G., i.-para, 23, was admitted in labour on 12th December about 7 P.M. Her last catamenia took place in the beginning of March, and from her own account she had probably conceived on 18th or 20th March. Morning sickness had been severe until August. Patient was small and thin, and had a mesial Pott's curvature in the dorsal region, the projection being pretty acute. Measurement round the umbilicus, 35¼ inches; from pubis to ensiform, 14½ inches. The abdominal walls were very thin. The fundus extended to 2½ inches from the ensiform cartilage. The uterus was of ovoid form, directed to the left, and projected forwards more than usual. Perineum lax; vagina moist and roomy; walls of uterus and cervix very thin. The membranes had ruptured before her admission. The intercristal measurement was 10 inches, inter-spinous 8¾ inches, intertrochanteric 11¼ inches, and external conjugate 7 inches. Labour pains had begun at 4 P.M., and were regular in character; os was fully dilated at 10.30 P.M. The vertex of the child presented, and it was R.O.P. in position. On the head reaching the floor of the pelvis, the occiput rotated under the pubis. After expulsion of the head, the cord, which was once round the child's neck, was gently pulled down. The child cried before the body was expelled. As the cord had apparently ceased pulsating, the birth of the body was

assisted by pressure on the uterus. The perineum tore. First stage lasted 6½ h.; second, 1 h. 20 m. The uterus was in a state of firm contraction after birth of the child. About ʒij. of the liquid extract of ergot were given by the mouth, because the gluteal muscles were so thin that she did not seem a good subject for a hypodermic injection of ergotin. After 20 m. had elapsed, during which time there had been some uterine pains, pressure was applied to the uterus, which caused some clots and blood to be expelled. Ergotin was now given hypodermically. The placenta was found to be slightly protruding from the os. Strong pressure was again tried, and continued for half an hour, and during this time more clots and blood escaped, in all two bowlfuls. On examination there was a small portion of placenta extruded beyond the os; the posterior lip of the cervix was lax, but anteriorly there was a tight band firmly contracted on the placenta, and the anterior lip of the cervix was œdematous. On tracing up the placenta further, the uterus was found to be in a state of hour-glass contraction. A tablespoonful of whisky being given and the patient anæsthetized, the hand, thoroughly carbolized, was passed into the uterus, and the placenta, partially adherent to the anterior wall, stripped off from below upwards. During its separation, which occupied about half an hour, the uterus contracted on the hand occasionally at the part where the hour-glass stricture had been, again relaxing when some more chloroform was given. Very little bleeding occurred during the separation and extraction of the placenta, which was effected at 1.10 A.M. of the 13th. Patient was very pale and almost pulseless. Four or five syringefuls of ether were injected into the buttocks; hot bottles placed round the patient; friction was applied to the limbs, which were also tightly bandaged from below upwards. The uterus was lax, but only very little oozing occurred. Patient did not regain consciousness, and died at 2.45 A.M., 1 h. 35 m. after removal of the placenta. Placenta was irregularly circular, 6¼ in. by 7¼ in., and weighed 14 oz. The child, female, alive and healthy, weighed 6 lb. 1 oz.

Puerperium.—Of 57 cases whose puerperia were complete during the quarter, there were 19 whose temperatures did not rise above 100°, 13 not above 101°, 6, 102°, 8, 104°, 4, 105°, and 2 not above 106°. The highest temperature recorded was 105°·8 in a patient who took septicæmia, and whose condition gave rise to some anxiety, but who ultimately did well. The following is the record of the patient who died on the fourth day of her puerperium:—

J. B., primipara, age 30, was admitted to the private ward on Jan. 8. Her last menstruation commenced on the 28th March, and lasted four days. Her condition during pregnancy was good; there was little morning sickness. Patient was small, and of a nervous temperament. She was in a better position than the patients usually admitted to the hospital, but, having been seduced and deserted, was in a state of mingled excitement and apprehension.

The vertex of the child presented, and in the L.O.A. position. Pelvic measurements were, inter-cristal 10¼ in.; inter-spinous, 8⅜ in.; external conjugate, 7⅛ in.

Labour: Strong pains began at 6.30 A.M. 12th January, but she had preliminary pains for one or two days before, during the time the upper part of the cervix was dilating. One night ½ gr. morphia was administered hypodermically, which had the effect of stopping the pains for six hours and allowing her to sleep, and the next night she got three 20 gr. doses of chloral, after which she slept for a few hours. Waters escaped at 2.15 P.M. on 13th January, and the child was born at 3.30 P.M. Duration of 1st stage (excluding preliminary pains), 31 h. 45 m.; 2nd stage, 1 h. 15 m., and the placenta was expelled 15 m. afterwards. Child, male, alive, healthy, and of mature development, weighed 6 lb. 3 oz. The patient was in a highly nervous condition all during labour, and complained a good deal of the vaginal examination. Before each examination, which was comparatively seldom, the hands were washed, first with turpentine, then with soap and water, and in carbolic lotion, and the vagina was douched with carbolized water after each examination, according to the routine practice of the Hospital.

Puerperium:—

	Temperature.		Pulse.	
	M.	E.	M.	E.
1st day, Jan. 13,	—	100°·4	—	80
2nd „ „ 14,	98°·8	103°·4	78	116
3rd „ „ 15,	99°	99°·8	74	94

Slight rigor in the afternoon, and 45 m. after midnight temperature was 103°·2.

4th day, Jan. 16.—At 4 A.M. complained of pain over the uterus; at 6 A.M. vomited dark green matter, and appeared flushed; bowels moved twice.

10 A.M.—Complained of dizziness in the head. Temperature 103°·2, and the pulse could not be felt. The house surgeon was suddenly called to the patient, who was found lying with her mouth open, gasping for breath, and of a dusky red appearance. Gave ℥ss. of brandy and a hypodermic injection of ether. The conjunctivæ of the patient were jaundiced, and the breath had a peculiar odour, somewhat like fæcal. Examination of the lungs revealed nothing abnormal. Professor Simpson saw her between 10 and 11, and was of opinion that it was a case of embolism, and ordered ammonia, digitalis, and stimulants.

11 A.M.—Breathing better, 32 per minute; no pulse; talks sensibly.

12.45.—Resp. 32; got ʒj. of spt. ammon. aromat. and ♏x digitalis.

2.15 P.M.—Resp. 36. Had a sudden attack of dyspnœa. Got ℥ss. of whisky. Asks eagerly for stimulants, which are given frequently.

3 P.M.—Temp. 102°; resp. 38. Great pain below the right breast; sudden attack of dyspnœa. The face and chest are of a dark red hue, especially during the dyspnœic attacks. At times

patient says she has no feeling in the left leg. Heart sounds at apex of equal loudness; at the base they are obscured by loud breathing. The lungs expand, and air clearly enters. Patient is very restless, complains of want of air, and feels that she cannot last much longer; quite sensible.

4.30 P.M.—Called suddenly to see patient; she gave one gasp and expired. Nurse says she was speaking five minutes before, then the breathing got slower, ending in a few gasps. Patient was quite pale when seen by the house surgeon.

Autopsy, performed by Dr Byrom Bramwell.—Length, 58 in.; circumference, 34 in.; poorly nourished. Considerable lividity, reddish; skin of abdomen green; uterus large, and projecting to a point 5 in. above pubis and 2½ below the umbilicus. In the abdominal cavity there were 2 oz. red fluid, with flakes of lymph; peritoneum of pelvis dull. Pericardial sac contained 1½ oz. of blood. No ante-mortem clot in the pulmonary artery. Cardiac muscle a little soft, otherwise healthy; small extravasation of blood under the pericardium, not extending into the heart muscle. One ounce fluid blood in both pleuræ; some œdema at the apices of both lungs. Left lung, 12½ oz.; right, 16 oz. Spleen soft and flabby, otherwise healthy; 5½ oz. Liver, 2 lb. 11 oz., extremely soft, apparently fatty. A good deal of mucus in the larynx; base of tongue somewhat congested. Uterus enlarged; one or two small fibroids in its wall; both ovaries enlarged somewhat, both soft and easily broken down. External os a good deal swollen; fissured most on left side. Internal appearance what one would expect shortly after delivery.

Dr Bramwell was of opinion that it was a case of acute septicæmia, the post-mortem appearances only showing commencing peritonitis and pleurisy.

EXTERN CASES.

There were 113 cases. 29 primiparæ had the average age of 21⅜ years; and 81 multiparæ, of 30 years. Natural labours, 98.—1 breech presentation. Two cases of twins; in the first, both were vertex presentations and children both male (the father was a twin); in the second, the first child was vertex, and the second a breech, latter dead; in the second case both children were born before the arrival of the nurse. Forceps.—High, 1; low, 3; all for uterine inertia. There was one case of post-partum hæmorrhage, and one of adherent placenta. Abortions, 6.—In one case jaundice came on at the fifth month, with persistent vomiting. Abortion took place three weeks later, and the jaundice disappeared two days afterwards. Premature labours, 5, one of which, at 7½ months, was due to hydramnios; child still-born. There were 49 male and 60 female children born; 8 of these were dead, being either still-born or dying a few minutes after birth. Maternal deaths, 2; one from septicæmia and another from pleurisy.

Part Second.

REVIEWS.

Selections from the Works of the late J. Warburton Begbie, M.D., LL.D. Edited by DYCE DUCKWORTH, M.D. London: New Sydenham Society: 1882.

THE poignant sorrow felt throughout the profession at Dr Warburton Begbie's premature death was, if possible, intensified by the feeling that so little remained in a permanent form to bear testimony to his eminent endowments, or to show to future generations what manner of man he was. His professional life, especially the latter part of it, was of too engrossing a kind to afford the leisure necessary for the production of any large treatise, or even of more than an occasional paper, although few men of his time could have written to better purpose, or would have commanded a wider or more appreciative attention. The wonder, indeed, is, to those who remember the constant demands upon Dr Begbie's time and energies as a physician and consultant, that he was able to write so much as he did.

His writings, excepting several important articles furnished to Reynolds's *System of Medicine*, consisted for the most part of papers read before medical societies or communicated to the journals; and while some of these had been published in a separate form, not a few of the earlier of them had for long been out of print.

The Council of the Sydenham Society, and Dr Duckworth in particular, have done a good work in collecting these writings together into a volume, and the profession in Scotland and in many places beyond will feel grateful to them for this memorial of one who lives in the affectionate remembrance and admiration of his professional brethren and associates, and who, indeed, had earned in the public esteem the title of the "beloved physician."

The writings which make up this volume relate chiefly to subjects of practical medicine, and many of them were the results of Dr Begbie's observation and experience as physician to the Royal Infirmary, Edinburgh. The cases recorded are mostly of rare interest, and their main features are sketched in a lucid and attractive manner by one who had learnt well the art of observing and was skilful in correct deduction. They are eminently clinical in their style, and even when dealing with questions of pathology, it is from the clinical standpoint that these are discussed—a method perhaps too little pursued at the present time, but one which obviously possesses many advantages. The papers on "Anthracosis, or Coal-Miners' Phthisis," and on "Hæmatinuria," are clinical studies of much value. That on "Paracentesis Thoracis in the Treatment of Pleural Effusions, Acute and Chronic," is a careful discussion of this remedial measure, founded on many well-observed cases in practice, and, although bearing reference to the Bowditch method of operation, is of equal applicability to the more recent plan of aspiration, and is well worthy of perusal.

The subject of Exophthalmic Goitre had a great attraction for Dr Begbie, and in this volume will be found three important papers upon that topic. The first gives a concise history of the malady and a sketch of its main clinical features; the second consists of a translation, with notes and observations, of Virchow's views on this subject; and the third deals with the occasional occurrence of temporary albuminuria in the course of the disease. In discussing the pathology of this singular ailment Dr Begbie gives a prominent place to the existence of anæmia as one of the factors in its production, a view first advanced by his distinguished father, Dr James Begbie. Nevertheless the increasing evidence in favour of a neurosis as giving rise to the symptoms could not be ignored, and accordingly, while fully admitting the profound vasomotor disturbance present, Dr Begbie sums up his views as follows:—"That the true pathology of bronchocele and exophthalmos found in connexion with cardiac palpitation and vascular pulsations and dilatations lies both in the blood and the nervous system, but that the *primum mobile* is the former; that an altered state of the blood, for a time stopping short of what is generally known as anæmia, but in many cases amounting to well-marked anæmia, acts directly on the nerves of bloodvessels and on the nerves of the heart, '*sanguis moderator nervorum;*' that in consequence their rhythmical movements are seriously affected, and that dilatation of the heart's chambers and of bloodvessels, arteries, but chiefly veins, results," etc. While, doubtless, the tendency of late has been to locate the prime seat of the malady wholly in the nervous system, it must be acknowledged that much yet remains to be cleared up in the pathology of this obscure disease. The condition of anæmia often present, and the circumstance of its occurring chiefly in those persons in whom, and at those ages when, chloro-anæmia is most apt to appear, are facts of significance, and many of the cases narrated in these papers of associated anæmia are certainly both striking and instructive. Had the lamented author lived, it would have been interesting from his point of view to have known that one of the patients referred to in the papers subsequently died from pernicious anæmia.

When selected to deliver the Address in Medicine at the meeting of the British Medical Association at Edinburgh in 1875, Dr Begbie chose the congenial subject of the Ancient and Modern Practice of Medicine. This was the last of his writings which appeared in print. Taking as the basis of his observations the somewhat scornful question of Sir William Hamilton, "Has the practice of medicine made a single step since Hippocrates?" Dr Begbie proceeds to reply to it by pursuing the history of the progress of the healing art since the days of the Father of Medicine.

In this review Dr Begbie was eminently at home, the history of medicine being, as is well known, one of his favourite studies; and in a rapid but masterly sketch of the phases characterizing the different eras in medical practice up to its marvellous modern developments, he presents a body of evidence in favour of the real and steady progress of practical medicine and therapeutics which could not have failed to satisfy the great philosopher. This, like all the other papers which make up the volume, bears the impress of high culture, and exhibits perspicuity, grasp, and soundness of judgment.

When all is said, however, it must be felt that this work but feebly represents the man whom it commemorates. As is so well expressed by his pupil, Dr Jeffrey of Jedburgh, "How much greater and better was *Begbie himself*, man and physician, than anything he ever wrote!" All who knew him cannot but desire that his life and character could be presented in some more adequate manner than is done in the sketch forming the introduction to this volume, which is mainly to be commended for the excellence of its tone and its thoroughly appreciative spirit, but is lacking in details calculated to make such a record attractive and useful to the extent it merits. This is a defect that might easily have been supplied had Dr Begbie's professional friends been appealed to and laid under contribution. Seven years have elapsed since he passed from among us, and already a generation of practitioners is rising that hardly knows the name of Begbie, though few names are more worthy of lasting remembrance. Upon his own generation he left the impress of his exalted character; but how desirable that that influence should be transmitted and perpetuated among those who are to follow; for, as regards all that is noble and worthy of imitation in professional life, it would indeed be difficult to conceive a higher ideal than James Warburton Begbie.

Transactions of the Clinical Society. Vol. XV. London: Longmans, Green, and Co.: 1882.

THIS the most recent volume of the Clinical Society's Transactions contains 46 papers and two committee reports. These are all most interesting and valuable. To a few we would draw attention.

Mr Heath reports a case of odontoma, or tumour composed of dentine partly covered with enamel, originating from the germ of a tooth growing in an irregular manner. The tumour was mistaken at first for a necrosis arising from periostitis. Curiously enough, the patient was the daughter of a dentist. Mr Heath states that his case is only the eighth recorded. One of the eight was under the care of Mr Annandale. The one removed by Mr Heath weighed 315 grains. Several cases of myxœdema are reported by Mr J. R.

Lunn, Dr John Cavafy, Dr M. Ord, Dr Jas. F. Goodhart, and Dr Mahomed. Quite a number of cases of operation on the kidney are recorded. They vary from exploration to extirpation. In three cases operated on by Messrs Beck, Butlin, and Haward, calculi were removed from the kidney weighing 29 grs., 60 grs., and 47 grs. respectively. All these cases were successful. Mr Haward had an unsuccessful case where, after suppuration had occurred, no calculus was found during life, but after death fragments of what had been a renal calculus, and, on the side not operated on, an entire calculus almost completely filling the pelvis and extending into the calyces and ureter, were found. Dr Goodhart and Mr Golding Bird report a case of extirpation of the whole kidney for scrofulous disease. The result was death four hours after the operation, which occupied nearly two hours. Dr Barlow and Mr Godlee record a case of extirpation of the kidney for abscess and calculus. The calculus was discovered before operation by the use of an aspirator needle. The operation was performed from the front through the peritoneum. The result was death twenty-four hours after the operation. Unfortunately there is no record of the condition of the kidney removed. The last case is that of Mr Marsh, who operated on a man suffering from putrid purulent urine, in the hopes of finding a calculus and thus relieving him of the cause of his trouble. No calculus was found. An attempt was made to extirpate the kidney, but on account of adhesions only part was removed, and the man died in about thirty hours. We see, therefore, that out of these seven cases of operation on the kidney only three recovered, and these were cases of simple incision for the removal of a calculus from an otherwise healthy kidney. It has long been an axiom here not to operate on cases where there is kidney disease present. The above cases would seem to prove that this rule should include operations on the kidney itself also.

Mr Godlee reports an interesting case of extrusion through an intercostal space of a head of grass forty-three days after it had been swallowed. Another case is mentioned where a similar occurrence took place, and the head of grass was extruded after thirteen days. In neither case does the foreign body seem to have caused much distress or inconvenience.

Mr George Lawson gives a case with most interesting details of epithelioma of the axilla and wall of the chest caused by the irritation of soot. The disease had been excised twice previously. The arm was amputated at the shoulder-joint in order to obtain a sufficient flap for covering the surface left by the removal of the diseased parts, and also because the axillary vessels were involved. There was little or no hæmorrhage, the axillary artery having been tied at an early stage of the operation. The man made a good recovery, and a drawing from a photograph shows an excellent result.

An unsuccessful case of excision of the spleen is recorded by Mr Haward.

Dr Hector C. Cameron, in a paper communicated by Mr Lister, gives six cases in which he ligatured principal arteries—in five cases for aneurism, and in one for wound of the popliteal artery and vein. In every case carbolized catgut was used with antiseptic precautions, and recovery took place.

Dr Greenhow publishes 43 cases of rheumatic fever treated with potassium iod. and quinine. He says the result "contrasts favourably with that by salicin and its congeners described in my former papers." It is refreshing to see these old remedies resorted to again, after all that was said about salicylic acid and its salts.

These extracts must suffice to show some of the valuable matter contained in one of the most interesting and instructive volumes we ever read.

Pathologie und Therapie der Hautkrankheiten, in vorlesungen für praktische Aerzte und Studirende. Von Dr MORITZ KAPOSI, a. ö. Professor für Dermatologie und Syphilis an der Wiener Universität. Zweite verbesserte und vermehrte Auflage. Zweite halfte. Wien und Leipzig: Urban & Schwarzenberg: 1883.

The Pathology and Treatment of Skin Diseases, in Lectures for Practitioners and Students. By Dr M. KAPOSI, Extraordinary Professor of Dermatology and Syphilis in the University of Vienna. Second Edition, improved and enlarged. Second half. Vienna and Leipsic: Urban & Schwarzenberg: 1883.

THE first part of this standard work, which we noticed some months ago, terminated with the opening sentences of the lecture on eczema. The principal additions which have been made to the two chapters devoted to eczema, and which are perhaps the best in the volume, have been the remarks which we find on the use of B. naphthol in its management. Naphthol is even more active than tar, and its employment requires correspondingly greater caution. It can be used to replace tar when the stage suitable for tarry applications has been reached, or to complete the cure after tar has been applied and the disease seems still slow to take its departure. Either a one-half per cent. solution of naphthol in alcohol can be painted on the part once, or at most twice, a day for two or three days. If the application is well borne, the skin becomes light brown, smooth, and pale, and then the remedy is to be discontinued. Desquamation proceeds slowly and imperceptibly. So soon as the skin which is being painted with the solution of naphthol appears reddened, or the epidermis fissures ever so little, we must stop its use. Or another mode is to employ a 1 per cent. naphthol salve rubbed on thinly once or twice a day and then dusted over with powder. Here, also, the favourable result must make itself manifest within one or two days, when it is to be laid aside. Or the contrary appearances of heat in the skin and fresh irritation equally demand its disuse. As to diet in eczema, Kaposi remarks that under no circumstances does he see any objection to the use of acid substances, salted meats or sausages, cheese or caviare: such neither aggravate the eczema nor the itching, nor do they give rise to the dreaded but non-existent "acridity of the blood." While we are inclined to agree with Kaposi that in the eczema of adults, at least, too much restriction has sometimes been put on the diet, still cases of eczema are continually being met with which are manifestly made worse by any digestive disturbance. From the dietary of such patients, materials which are notoriously difficult to assimilate should be eliminated. Prurigo forms an interesting chapter, in which a more hopeful prognosis is held forth than of yore, though the more severe forms are still declared absolutely incurable. Speaking of its etiology, he says, "There is certainly much truth in Hebra's observation, that tubercular mothers—and, in my experience, those who are anæmic and affected with chronic catarrh of the apices of the lungs, aggravated during pregnancy—bear children especially liable to prurigo." In the treatment of prurigo naphthol has proved itself of marked value, applied as a weak ointment or used as a naphthol and sulphur soap. Kaposi would do away with the employment of counter-irritants such as mustard or cantharides. The staining of the skin produced by these may, he says, sometimes last a lifetime, and this knowledge should restrain the physician from blistering the face or bosom, if it does not induce him to abandon, as a general rule, such curative measures. The question of the causes of leprosy are very carefully considered, but Kaposi is scarcely yet prepared to accept as proved that the bacillus lepræ is the medium of infection. After all, he says, the cause of leprosy is not yet determined, but we are probably near the truth in believing that circumstances of a physico-geographical nature, perhaps by being favourable to the bacillus, chiefly condition it. Thus we can best explain the occurrence of the disease in persons who have taken up their residence in leprous districts, and also the experience that in families affected with leprosy the disease sometimes dies out when they move to districts where leprosy does not exist. Children and descendants may also inherit the tendency to leprosy, as to any other dyscrasia. Kaposi still maintains the parasitic nature of tinea tonsurans maculosa when occurring as a general acute eruption of the trunk and extremities, and makes no allusion to the views of Behrend and Jamieson. These latter are of opinion that this so-called universal form of tinea tonsurans is seldom, if ever, parasitic, but is a ringed, persistent erythema, or what has been described as pityriasis maculata et circinata. There is, however, a peculiarity in the disease as seen in Vienna. Tinea tonsurans universalis is extraordinarily frequent in Vienna, from 3 to 5 per cent. of all skin diseases; while tinea tonsurans capillitii is very rare, scarcely 0·1 per cent. Kaposi says that during the first days of the development of tinea tonsurans maculosa only scattered spores are discoverable ; and for the first time, after a duration of two or three weeks, can the characteristic mycelium be found in the scales from the larger patches. In what in its clinical features corresponds in this country to the universal form of tinea tonsurans no parasitic elements are discoverable, though such are easily made out in tinea circinata or ringworm of the body, and in eczema marginatum. The fact of the rarity with which ringworm of the head, as compared with ringworm of the body, occurs in Vienna is singular, the exact reverse being the case here, while no case of the universal acute form where the fungus has been demonstrated has, so far as we are aware, yet been recorded in Britain. For the treatment of this acute universal form Kaposi now recommends soft soap with two per cent. of B. naphthol. This is to be rubbed into the skin for two or three days twice a day. The body is then to be dusted with powder, and no baths taken till, at the end of a fortnight, the dry, shrivelled cuticle has completely desquamated. In the former edition soft soap alone was used for the same purpose; the addition of naphthol, which for many purposes is a great favourite at present with Kaposi, will possibly make complete desquamation more certain. For tinea tonsurans of the scalp the author praises the following, to which also naphthol has been now added:—

℞	Ol. rusei, . . .	ʒj.
	Sp. saponat. kalin., .	ʒiss.
	Sulphuris precip., .	grs. xl.
	Sp. lavand., . .	℥ss.
	Bals. Peruvian., .	grs. vj.
	Naphthol, . .	grs. ij.

For the treatment of scabies a naphthol salve is recommended before all others. The composition is as follows:—

℞	Adipis, . . .	100
	Saponis mollis, .	50
	B. naphthol, . .	15
	Cretæ preparat., .	10

One application of this ointment causes the burrows to shrivel up, and the eczema and itching to be arrested. At the same time the skin acquires an agreeable pliancy, while absence of colour and smell (?) are further recommendations. The patient should thereafter don woollen underclothes or keep between blankets and remain quiet till the skin becomes dry, nor take a cleansing bath till the dry epidermis is loosened and the concomitant eruptions, such as eczema or urticaria, have subsided. From three to five days may be allowed, as a rule, for this. Kaposi states, like every other author we can remember, that the crab louse lives in all the hairy parts of the body *except the scalp*. Till quite recently we held the same opinion; but we were shown specimens of the pediculus pubis and nits of the same louse attached to the hair—showing that the animals were thriving—which had been removed from the head of a young child. How the creatures had got there there was no evidence forthcoming; but they were most numerous round the edges of the scalp hair, if not entirely confined to that region. That the pediculus pubis *may* live in the scalp hair must be accepted as proved. Whether the converse may occur—whether, that is, the head louse can thrive among the hairs of the beard or axilla—has not been noticed. We have noted these points during a perusal of this admirable treatise, which must rank as one of the first on the subject. Kaposi writes fluently and plainly, and we can most conscientiously recommend these lectures to any medical man who knows German even imperfectly. He will find little difficulty, and gain much advantage from their study.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION LXII.—MEETING VII.

Wednesday, 2nd May 1883.—Mr Joseph Bell, *Vice-President, in the Chair.*

I. Exhibition of Patient.

Dr Allan Jamieson showed a WOMAN, æt. 37, suffering from LICHEN RUBER. Her health had not been so good of late, her four last labours being difficult. The eruption had appeared three weeks before, simultaneously on legs and arms, and was extending over the abdomen. At first it had not produced unpleasant symptoms, but she now complained of itching. The papules were seen disseminated, but some here and there ran into patches, more particularly on the legs, where also there were marks of scratching. Some few spots on the back of the hand brought this form of lichen ruber planus into association with erythema multiforme. Lately attention had been called to the occurrence of white spots on the tongue, but they were not to be seen in this case. The disease was an uncommon one in Scotland, more common in London, and still more so in Germany. It seemed also to occur more frequently in the upper classes than the lower, for while he had seen about fourteen cases in private practice, this was the first that had come to his dispensary clinic. The treatment he had found most suitable was arsenic internally, with chloral-camphor as an ointment externally.

II. Exhibition of Pathological Specimens.

Mr A. G. Miller showed THREE PIECES OF BONE removed by him four weeks previously from a small boy who fell two stories into a court, on his head. He was insensible, and had a depression on the left side of his head, into which the half of a walnut might have been put. The depressed bone was loose and easily raised. It was removed, with two or three smaller pieces sticking into the dura mater. The case was a good example of the advantage of removing sources of irritation. The pieces of bone would infallibly have set up inflammation, of which there had not been the slightest trace since the operation. With the exceptions that a portion of the skull was wanting, and that there was slight facial paralysis on the side opposite that injured, the boy was quite well.

III. Original Communication.

Dr A. Bruce read a CASE OF TUMOUR OF THE TEMPORO-SPHENOIDAL LOBE OF BRAIN, an abstract of which will appear in a future number of this Journal.

The Vice-President said the Society was much indebted to Dr Bruce for the care with which he had presented to them his exhaustive account of the case. It recalled very vividly to his mind a case that occurred about 1859 or 1860 in the wards under charge of Dr Gairdner, now of Glasgow. An Irishman of herculean build had been admitted. A careful examination was made of him, but they could find nothing on which to come to a diagnosis. He could not, or would not speak, and it was supposed that he was shamming. One day a clerk, more active than his fellows, came behind him as he was warming himself at the fire, and stuck a pin into his gluteal region. He at once jumped up with a "Damn." This was taken as conclusive proof that he was shamming, and he was dismissed at once. Some time later he was brought in to the general waiting-room in a dying condition. Post-mortem examination revealed the existence of a tumour of the brain. The case made a considerable impression on all those who had been connected with it.

Dr Byrom Bramwell said this was one of the most interesting cases of brain disease which had been hitherto published. One of the main points of interest was the existence of a large intra-cranial tumour greatly increasing the intra-cranial tension, but unattended by headache, vomiting, or optic neuritis, which were the usual characteristic symptoms of such a lesion. Cases of tumour did occur where one or other of these symptoms was absent, but it was very unusual to find all of them absent where the intra-cranial tension was increased to the extent it was in Dr Bruce's case: the sulci and convolutions on the left side were absolutely flattened, and the vascularity on the surface of the brain was almost effaced, a condition which it was difficult to believe could have occurred only a few hours before death. As Dr

Bruce had indicated, the case was of considerable interest in regard to the theory of the mode of production of optic neuritis. It was difficult to account for all the cases of optic neuritis on any one of the three common theories. This case seemed to tell against the mechanical theory of increased tension, but it would be somewhat premature to conclude that this theory was destroyed even by such a case. It was remarkable that there was no headache. This was possibly due to the absence of irritation of the dura mater; but even in the case of central tumours, with so much flattening there was almost always severe headache. It must have been almost impossible, from the absence of symptoms, to have diagnosed brain tumour, and possibly the diagnosis come to was the only one permissible upon the evidence. It was very easy, after death, to pick holes in little points, and there did seem to be some points in the case which threw doubts upon the hysterical theory, but it was probable that most observers would have come to the same conclusion as Dr Bruce had done. Dr Bennett's case was mistaken for hysteria, not only by himself, but by many of the ablest neurologists in London. The points which struck him as being likely to suggest something more than hysteria were, in the first place, that there was on more than one occasion facial paralysis. In cases of hysterical paralysis facial affection was very rare; indeed, Todd made this an important diagnostic point in hysterical hemiplegia. He knew of no case of hysteria in which the paralysis was limited to the muscles of the face. Another point was that in most cases of hysterical paralysis the sensory phenomena were infinitely greater than the motor. It was rare to meet a case in which there was not some profound anæsthesia at some time or other. This did not seem to have been present in this instance. The character of the fits was not typically that of hysteria, though suggestive of it more than anything else. The peculiarity of the speech was another point perhaps a little unusual in a case of hysteria, and the mental condition was somewhat different from the ordinary hysterical condition. The paralysis, too, was always on the right side of the body. Looking at all these facts, there seemed to be a suggestion of something more than mere hysteria, some organic cerebral lesion. It would have been impossible, however, to have arrived at any idea as to the exact nature of the cerebral disease. The only fact in favour of tumour—and it certainly was a suggestive one—seemed to him to be that two tumours had been previously removed from other parts of the body, viz., from the forehead and breast.

Dr Ireland said that, in common with those present, he was much pleased to hear Dr Bruce's communication, and to note the careful and circumspect manner in which he had gone into the symptoms from the time the case had come into his hands. There were one or two points on which he wished to remark. He understood Dr Bruce to say that consciousness was not lost during the fits; but it seemed to him that there was still room for supposing that the fits were those of epileptic vertigo, in which there was a very short loss of consciousness. Trousseau had pointed out that a very short loss of consciousness might occur in such conditions, so short that bystanders might fail to notice it—as, for example, at cards, one of the players might have it just as it was coming to his turn to play, recover, and lay down his card in good time. He thought it would be very difficult to prove that such short losses of consciousness did not actually occur. Dr Bruce probably considered that the importance of the case was that it confirmed Ferrier's localization theory, placing the auditory centre in the superior convolution of the temporo-sphenoidal lobe or near it, the exact area not being well fixed. Although physiologists were not agreed as to the position of the visual centres, there was much less difference of opinion as to the auditory centres being in this lobe. Their views, however, received very little support from pathology. Lesions of this kind were rare. Out of forty-one cases of localized cerebral disease that had been collected, only one went to support this theory as to the position of the auditory centres. He was not altogether clear as to the deafness. What Dr Bruce told them seemed rather to show that the patient confounded one word with another, as "jujube" for "hospital." He was not sure whether this would be put down to aphasia or word-deafness. The fact that Dr Bruce, on recalling the symptoms, diagnosed tumour of the temporo-sphenoidal lobe, seemed to show that it was really a case of word-deafness; possibly there were some symptoms, all of which he had not reproduced in his paper. In brain tumours generally he thought it was more frequent than Dr Bramwell had supposed that the symptoms should be negative. He remembered Dr Clouston showing a tumour of some part of the posterior portion of the brain from a case in which there had been no symptoms whatever.

Dr Bramwell wished to correct a misapprehension on Dr Ireland's part. He did not mean to suggest that in many instances brain tumours existed without symptoms, but it was very rare to have no symptoms where the tumour caused so great an increase of intracranial tension as in this case.

Dr Clouston agreed with the former speakers in congratulating Dr Bruce on his paper, and the Society in being listeners to such a careful series of observations. A case like this, no doubt, tempted to discursive remarks in regard to the functions of the brain which were affected. He would desire rather to confine his observations to the mental and moral symptoms present. These were of such a nature that they suggested hysteria. The difficulty one always had in diagnosing hysteria was that it was a very undefinable condition. Motiveless and immoral conduct in a young woman was very often called hysteria. He thought they might define hysteria to be the loss of the inhibitory influence exercised on the reproductive and sexual instincts of women by the higher mental and moral functions, this taking place through reflex ovarian or uterine influence of a morbid kind or degree. In regard to one thing he had been rather astonished, since he heard this paper and read Bennett's, that the thing seemed in no way new to him that apparent hysteria might be an early symptom of tumour. It was exceedingly common in brain and mental disorders both in cases with and without organic disease of the brain. He could recall many cases of tumour in which the first symptoms were lack of mental and moral control. When the brain was affected, the function of moral inhibition was the first, he thought, to be lost. It was common, not only in tumours of the brain, but also in diseases of the cord. One of the most remarkable examples he had had of hysteria was in a lady whose case ended in softening and destruction of the spinal cord. The very first thing she manifested was a kind of moral perversion. She began to lie, to steal, to pretend to be what she was not, and from being a perfectly reputable person she became one of the greatest adventurers he ever heard of, imposing on tradesmen, furnishing two or three magnificent houses, and getting introduced to some of the highest in the land by sheer lying and impudence. After this stage came the hysterical fits, which ended in what appeared to be hysterical paralysis of the legs. Latterly other symptoms appeared. The trophic functions were interfered with, and disease of the cord was found after death. Want of moral control and hysterical symptoms were the first indication in a large number of cases of mental disease in young women. Nothing was more common than morbid immoralities in senile cases in men who had no insanity or organic disease in the ordinary sense, their brains being simply affected by senile decay. The mental irritability which was present in Dr Bruce's case was one of the most common and persistent symptoms of tumour, but it occurred in so many other diseases that it was not diagnostic. Looking at the other mental symptoms, one could not fail to regret the want of any test of moral strength and mental power. They had no means of testing these in any individual, and therein lay the weak point of mental symptoms in such a case. This woman, supposing she had an ordinary brain, had little to do that was a test of mental capacity. Her conduct in spitting into her soup, her want of affection for those who were near and ought to have been dear to her, showed that there was a tremendous inroad on the emotional part of the brain. The mode of sudden death was common in cases of brain tumour, and that whether the tumour was large or small. It was common where they had spiculæ of bone growing inwards from the skull, and was no doubt analogous to the sudden occurrence of neuralgia, paralysis, and convulsions, which occurred suddenly in gradually progressive organic disease. The actual brain disease is often present for some time before the symptoms appear or death occurs.

The Treasurer, Mr A. G. Miller (who had taken the chair owing to the Vice-President having to leave), said that when he had charge of the patient she suffered from a tumour of the left breast, which he diagnosed as an adenoma, and had removed without excising the gland. He gave it to Professor Hamilton for examination, who confirmed his opinion that it was a simple adenoma, and therefore not a tumour likely to recur or reproduce itself elsewhere. It could not have been taken into consideration in enabling them to come to a diagnosis as to the cerebral mischief.

Dr Bruce thanked the Society for the lenient treatment he had received. As to the facial paralysis, he only heard of it post-mortem. Though rare, he thought it occurred sometimes in hysteria. Rosenthal, at any rate, described it as doing so, and he failed to see how on any other theory its disappearance could be satisfactorily accounted for. The lesion was not syphilitic, and there was no vascular change to account for it. The paralyses were not always to the right side, as Dr Bramwell had supposed. Sometimes the right side was affected, sometimes the left. She dragged sometimes one foot, sometimes another. As to the nature of the fits, it was impossible for him to say that there was no loss of consciousness. As far as Dr Miller and he could say, there was no loss in the fits they observed. His conclusion that she suffered from word-deafness was come to because of the conversation he had had with her when she looked him in the face and asked him if he were sleeping, in answer to his inquiry how she was. He thought she had not made out his question. At the time of death he had not the knowledge of the true aphasia to go upon. He was much indebted to Dr Clouston for making him aware of what he had not known before and had not seen in any of the books, the commonness of hysteria in organic brain disease. He had considered the possibility of a tumour very carefully, and would only have been too glad to have been able to diagnose it rather than hysteria.

OBSTETRICAL SOCIETY OF EDINBURGH.

SESSION XLII.—MEETING VI.

Wednesday, 28*th February* 1883.—Professor SIMPSON, *President, in the Chair.*

I. *Dr Skene Keith* showed a large FIBROID TUMOUR which had been removed by Dr Thos. Keith on the previous day. The patient was about 50 years of age. The tumour had being growing for several years; seven years ago it was almost up to the level of the umbilicus. Serious hæmorrhages called for removal of the tumour. The uterus was removed with the tumour, the clamp embracing the cervix and the top of the vagina. The removal of the tumour occupied 23 minutes. As the closure of the abdominal wound required a great many sutures, the whole operation lasted 1 hour 10 minutes.

The tumour weighed 27½ lbs., and discharged four imperial pints of blood on its being divided. The patient stood the operation well; pulse and temperature this morning normal.

II. The MATERNITY REPORT FOR QUARTER ENDING JANUARY 1883, by the President, which appears at page 1105 of this Journal, was then read.

Dr James Carmichael supposed the douche used in post-partum hæmorrhage was intra-uterine, as a vaginal douche was of no use in such cases. He asked whether the hour-glass contraction mentioned in one of the cases might not be due to the administration of ergot.

Dr T. D. Wilson suggested that the Maternity Reports might be laid on the table before the meeting, as it was difficult to speak on a report which had been heard for the first time. He would like to know whether transfusion would not have been of service in the case of post-partum hæmorrhage.

Dr Barbour thought that there was not sufficient proof that the death ascribed to septicæmia was due to that cause. The temperature chart was not that of acute septicæmia, and the sudden development of dyspnœa and lividity was left unexplained.

III. *Dr Croom* read a paper on SOME RESULTS OF OBSERVATIONS MADE BY THE GRAPHIC METHOD OF THE VARIATIONS IN BLADDER-PRESSURE DURING LABOUR, which will appear in a future number of this Journal.

The President drew attention to the shortness of the waves in the first stage, and that they increased slightly in intensity as the stage advanced. The cause of these waves was not plain, unless they indicated uterine contractions. In the second stage it was difficult to exclude the action of the abdominal muscles. Whatever the cause might be, it did not affect the value of the observation that there was an intermittent variation in the bladder-pressure.

Dr Chapman asked whether the fall of the wave might not correspond to a relaxation of the abdominal walls due to an intermission of the bearing down efforts, the muscles momentarily ceasing to act as a counter-pressure to the uterine contractions.

Dr James Carmichael thought that the Society was indebted to Dr Croom for his valuable paper on this important subject. This graphic method opened up a new field of inquiry. There were, however, several fallacies to be eliminated, as indicated in the discussion, before the real value of such tracings could be appreciated.

Dr Croom, in replying, said there could be no question as to two points—(1) That a manometer in the bladder records a variation in the pressure of the bladder-contents during a pain, and (2) that the pressure takes the form of intermittent rises with an almost complete fall between them. With regard to Dr Chapman's explanation, he would draw attention to the fact that the respiratory movements had no influence on the manometer as long as no pains were present—the stilette traced a straight line.

IV. *Dr Croom* read, for Dr Andrew S. Currie of Lydney, a paper on THE USE OF CHIAN TURPENTINE IN CASES OF UTERINE CARCINOMA, which appears at page 997 of this Journal.

The President said that this subject of Chian turpentine had been already before the Society. Then he had stated that the results of its trial in his ward had been of so little value that he had discontinued it.

Dr Chapman said that Dr Macdonald's experience was that, while it relieved pain and diminished fœtor, it increased hæmorrhage, but that it had no effect on the growth of the tumour.

Dr Church said that the fact that its use increased the hæmorrhage militated against Clay's theory that it diminished the cell-growth by checking its blood-supply.

Dr Wylie suggested that the increased hæmorrhage might be explained by the action of the ether, as an ethereal solution was employed.

Part Fourth.

PERISCOPE.

MONTHLY REPORT ON THE PROGRESS OF THERAPEUTICS.

By WILLIAM CRAIG, M.D., F.R.S.E., Lecturer on Materia Medica, Edinburgh School of Medicine, etc., etc.

RESORCIN AS A REMEDY FOR CYSTITIS.—Dr J. Andeer (*Centralb. f. die Med.*, Wissen.) reports extensive use of resorcin in acute and chronic cystitis, and claims for it almost specific curative power. He reports 156 cases where, either by him or to his personal knowledge, it was injected into the human bladder with the best results in vesical catarrh. Acute cases have been entirely cured by the injection of a five per cent. solution.—*Am. Journ. of the Med. Sci.*; *New Remedies*, February 1883.

BROMIDE OF ETHYL FOR SPASMODIC COUGH.—Dr William Squire recommends a solution of one part of bromide of ethyl in two hundred parts of water as a remedy for whooping-cough, and also in angina pectoris. This is of similar strength to the chloroform water of the British Pharmacopœia, and its dose is the same, namely, one-half to two ounces.—*New Remedies*, February 1883.

SALICYLIC ACID AS A REMEDY FOR CORNS.—Dr Traill Green, writing to the *Medical and Surgical Reporter*, speaks highly of the results obtained in the treatment of hard and soft corns with salicylic acid. He has adopted a formula recommended by Mr Gezon, which is as follows:—

℞	Salicylic acid, .	30 parts.
	Extract. cannabis indica,	5 parts.
	Collodion, . .	240 parts.

Dr Green says: "The collodion fixes the acid on the diseased part, and gives speedy relief by protecting it from friction. The cannabis indica acts as an anodyne, and the acid reduces and loosens the corn, so that it comes off in four or five days, adhering to the collodion. The remedy is applied with camel's-hair pencil, and if the corn is not well cured the application may be repeated. In four or five days the patient should use a warm footbath and rub off the collodion. If any portion of the corn remains, the acid should be applied again, and the treatment continued until the whole of the corn has disappeared. The skin will be soft and smooth as in the healthy state. The mixture dries immediately, and does not prevent for a moment the use of the stocking. I have used salicylic acid in the treatment of bunions with like good results. Collodion as found in the shops makes a good mixture but I have found a flexible collodion preferable, as it makes with the other ingredients of the remedy a denser fluid. The extract of cannabis should be the solid extract. I am sure no remedy has ever been proposed which is so useful in those painful affections of the feet as salicylic acid."—*The Pharmaceutical Journal*, 28th April 1883.

Iodoform as an Antiseptic.—Dr Mikulicz has recently published in the *Berliner Klinische Wochenschrift* a paper in which he discusses the uses of iodoform in surgery, and sums up as follows:—1. Iodoform is an excellent remedy in all conditions in which the direct application of an antiseptic to a wound is required, and in this matter deserves to be preferred to all other means at present in use. 2. Lister's carbolic gauze dressing may be completely replaced by iodoform dressing, which has the additional advantage of being simple and certain. 3. Iodoform dressing ensures an aseptic course to wounds, even in conditions where it has not hitherto been possible to carry out antiseptics strictly. 4. In cases of wounds and ulcers which have already become septic, iodoform acts, as a rule, more rapidly and certainly than other antiseptics, and does not irritate the tissues. 5. Iodoform acts as a specific on syphilitic, tuberculous, scrofulous, and lupous infiltrations. Dr Zeissl relates in the *Allgem. Wiener Med. Zeitung* two cases in which toxic symptoms—erythema, fever, and albumen and iodine in the urine in one case, urticaria and iodine in the urine in the other—followed the application of iodoform after operation. The quantity used, however, is not stated.—*The Quarterly Therapeutic Review*, January 1883.

Iodoform—Toothache.—Schaff, in the *Deutsch. Med. Zeit.*, No. 12, recommends iodoform, on account of its gently caustic action, as an anodyne application to exposed tooth-nerves. The circumstance that a single or repeated application of iodoform does not produce any irritation, much less any inflammation of the periosteum, and the double function of the remedy as a cleansing and disinfecting agent, make it especially appropriate as a caustic, particularly before the introduction of a temporary filling. The author uses a paste consisting of iodoform powd., grs. 60; kaolin, grs. 60; carbolic acid, grs. 8; glycerine, q. s.; oil of peppermint, gtt. 10. Triturate the iodoform, kaolin, and oil of peppermint with enough glycerine to form a thick paste.—*The Quarterly Therapeutic Review*, 1st January 1883.

NITRITE OF AMYL AND NITRO-GLYCERINE IN URÆMIC ASTHMA.—The brief notes I give below illustrate the value of nitrite of amyl and nitro-glycerine in one of the sudden and distressing, though perhaps rare, phases of chronic Bright's disease, viz., uræmic asthma. Nitrite of amyl, acting probably through the vaso-motor nerves, relaxes the arterioles, and thus reduces blood-pressure. As it is very volatile, on the score of economy and convenience I always carry some of Martindale's capsules in my bag, and these are very handy for immediate use. Nitro-glycerine is said to have much the same action as nitrite of amyl, and, according to Dr Mahomed, its great superiority over amyl lies in its gradual and more lasting effects, and the more convenient manner of prescribing it, and it can be taken regularly two or three times a day or oftener, one minim of a one per cent. alcoholic solution being the usual commencing dose. It is also made up in chocolate tablets, each containing one-hundredth part of a minim; but its action when given in this form is not so rapid as that of the alcoholic solution. M. P., aged 55, retired from business 4th May 1882. He had been ailing for two weeks, but had been about. He had noticed swelling of his legs towards night for two months, and his face had swollen occasionally for the last month. He had always been careless of his health, and if he got wet—an event which happened not unfrequently—he would never change his clothes. He was taken suddenly ill in the evening whilst out walking, about a mile from home, and had to be taken home in a cab. On visiting him at 10 A.M. I found him sitting up in bed, gasping for breath; countenance distressed, and of a sickly pallid hue; pulse feeble, temperature 98°; tongue pale and sodden; expectoration frothy, with some little blood intermixed; moist râles over whole chest, back and front; urine abundant, clear, containing one-fourth of albumen. At 2 P.M. I found his condition and posture unchanged; he could only speak a few words before he had to stop for breath. He inhaled three minims of nitrite of amyl (a capsule broken in handkerchief). Within a few minutes his breath was easier, and he was able to recline in bed, for the first time since the attack came on, before I left the house. I then put him on nitro-glycerine, one-hundredth of a minim thrice a day. *May 5th.*—He was lying easily in bed, breathing quietly, and expressing himself as feeling quite well; he said he was only waiting till I came before he got up. I cautioned him unavailingly that his life hung by a thread, and that he could only hope to continue it by the strictest obedience. On the 6th he still remained in the same improved condition. The next day he refused to take any more medicine, but promised to stay in the house, a promise which he did not keep. On the 16th he had another attack, and died quietly within thirty-six hours, the urine being loaded with albumen (A. Sheer, Cardiff).—*British Med. Journal*, 28th April 1883.

PERISCOPE OF LARYNGOLOGY.

By G. Hunter Mackenzie, M.D., and J. Maxwell Ross, M.A., M.B.

INTRA-LARYNGEAL GROWTHS.—The *Medical News* of Philadelphia publishes, in its issue of 3rd February 1883, a "clinical" lecture on this subject by Dr Clinton Wagner of the New York Post-graduate School. He accepts the ordinary classification, but favours the view that papillomata may recur or reappear as malignant tumours if not thoroughly removed. Details of a case which seems to support this opinion are given. The patient was first seen in January 1881 for a growth about the size of a large pea on the right cord near the anterior commissure. Removal by the forceps was recommended, but refused. Twelve months later the patient was again seen with the whole box of the larynx almost completely filled with growth. Part was removed by the forceps, and part by tracheotomy and thyrotomy, which had to be performed because of the increasing dyspnœa. Dr Heitzman examined the tumour, and pronounced it to be a benign growth of the variety known as papilloma. He at the same time reported that it had grown from a highly inflamed base, and, if it recurred, would most likely come as a malignant growth. A few months later it had returned. Tracheotomy was performed, and afterwards the tumour, which involved almost the whole of the right side of the larynx, was removed. On examination by Dr Heitzman it proved to be epitheliomatous. Speaking of the rarity of myxomata in the larynx, Dr Wagner says M. Mackenzie, in his extensive practice, has not met with a single case. If he means pure mucous growths, he is right; but it must be remembered that M. Mackenzie does report a case in his *Growths in the Larynx*, in which the neoplasm was in part of a mucous character. Under the sarcomata, the doctor speaks of one specimen, the history of which shows how difficult it is sometimes to get a definite answer from histological pathologists regarding the character of tumours submitted to them for examination. One microscopist called it a sarcoma; another of equal eminence a papilloma; and still another an epithelioma-papilloma. It was removed on the first occasion by means of forceps from the right cord. It recurred, and, tracheotomy with thyrotomy being performed, it was again removed. It again recurred in two months. Extirpation of the larynx was proposed, but refused. Thyrotomy was repeated, and had to be done in all seven times within two years. Latterly the disease extended to the trachea, and the cervical glands became involved. Under treatment, the removal of benign growths by means of Mackenzie's forceps is recommended. Caustics are condemned, the stronger ones because it is impossible to localize their effects, and the milder because they are useless. Thyrotomy ought never to be performed except in those cases where the respiration is seriously impaired. The operation suggested by Professor Rossbach of Würtzburg, which consists in the introduction of a sharp-pointed narrow knife through the median line of the thyroid into the larynx, and then, by aid of the laryngoscope, cutting off any growth that may be upon the vocal cords, is held to be impracticable because of the spasm, retching, and even hæmorrhage, which are likely to ensue.

TRACHEOTOMY AS A PRELIMINARY TO OPERATIONS ABOUT THE MOUTH, NOSE, AND PHARYNX.—Dr M'Burney, in a paper read before the New York Surgical Society on 9th January 1883, recommends, instead of Trendelenburg's and other methods of tamponing the trachea, that an ordinary trachea-tube should be inserted, after which the lower part of the pharynx may be packed with sponge, or, still better, a sponge covered about half with thin rubber, the rubber side being pushed down and covering the whole lower surface of the sponge to prevent any drainage through. The objections to Trendelenburg's tampon are, first, that the rubber bag, if overdistended, is liable to burst or to overlap and cover the lower end of the tube, and second, that the tracheas of some patients do not bear well the lateral pressure of the bag, violent cough being induced when it is distended. Dr M'Burney states that the plugging of the lower pharynx after tracheotomy, which was first recommended by Kocher, has been done by himself and others with complete success. The sponge, carbolized in a five per cent. solution, may even be kept in, as well as the trachea-tube, while the wound in the mouth is healing. It must, of course, be removed to allow the patient to feed, but it has the advantage of enabling the surgeon to treat the wound nearly antiseptically.—*Philadelphia Medical News*, 3rd February 1883.

HAY ASTHMA.—Dr John O. Roe, in the proceedings of the seventy-seventh annual meeting of the New York State Medical Society, says that as a result of investigations into nasal diseases it is clearly demonstrable that the special cause for hay fever does not alone reside in a special peculiarity of a special irritant, which affects certain individuals in a peculiar manner, but in a special susceptibility of the tissue of the nasal passages of some individuals to be irritated by these substances when brought into contact with it; that this susceptibility is occasioned by disease, either latent or active; that the removal of the diseased tissue will remove the susceptibility to irritation by these substances; and that the train of symptoms, which appear to be more or less of a constitutional nature, and producing the asthmatic and nervous symptoms (which have led to the classification of the affection as a neurosis), are but the result of the irritation of the Schneiderian mucous membrane, which is reflected to other parts and organs through the agency of the sympathetic nervous system, causing irritation in these organs, which is augmented by the consequent obstruction to nasal respiration during the attack. [In the discussion which followed, doubt was expressed as to the cause being local, for if it were it could not be so readily relieved without local treatment].—*Philadelphia Medical News*, 10th February 1883.

SODIUM BICARBONATE IN THE LOCAL TREATMENT OF ACUTE TONSILLITIS.—Dr Skinner, Assistant-Surgeon, U.S. Army, recommending this drug, says it may be as beneficial in solution as in powder. He combines it with the myrrh and camphorated opium tinctures and water as a gargle, and is highly satisfied with the results. [Our experience is that gargles, in acute throat affections, are more likely to do harm than good. The powder dusted on is much more likely to be efficacious.—J. M. R.]—*Philadelphia Medical News*, 10th February 1883.

ŒDEMA UVULÆ.—Dr Carter of Chicago reports a case of this nature in a patient æt. 19, so extensive as to completely fill the whole inter-tonsillar space and press on the back of the tongue. The posterior nares were occluded to such an extent as to prevent breathing by the nose. When Dr C. saw him he was struggling against impending suffocation by breathing as well as he could through the stem of a tobacco-pipe thrust well back into the throat. The œdematous uvula, which resembled a bladder filled with clear water, was at once seized, and scarified in several places with good effect, and in a short time the throat had returned to its normal condition.—*Philadelphia Medical News*, 31st March 1883.

THE MANDRIN-TRACHÉOTOME.—Under this name Dr Phelippeaux of Saint Savinien (Charente-Inférieure) describes, in *Annales de Gynécologie* for April 1883, a new instrument which he believes will facilitate the introduction of the cannula in tracheotomy. It consists of a tracheal cannula with a modified trocar, made of a solid rod of steel, the two extremities of which are enlarged so as to fit accurately to the cannula, while a free air-space is left around the long central portion of the curved rod. Projecting from the lower end is a thick blade, the concavity and tip of which is provided with a sharp cutting edge. The enlarged extremities are each grooved on three sides to allow of the passage of air. By means of a screw in the centre of the upper extremity a plate is fitted to the trocar. It has three holes to correspond with the three air-grooves, and two wings similar to those with which the inner tracheal cannula is usually provided. These wings facilitate the handling of the instrument. It has also a slit in its upper edge, into which a catch from the cannula passes, and, when turned either to right or left, locks the cannula and trocar together. The instrument is not intended to replace the bistoury in making the incision through the skin, but to allow of the tracheal incision and the insertion of the cannula being made at the same moment. When the cannula is fairly in position, the trocar may be removed and an inner tube inserted. The instrument appears, as yet, to have been used only on the dead subject.

PERISCOPE OF STATE MEDICINE.

By James Allan Gray, M.D. Edin., F.R.C.P.E.

Genesis of Ptomaïnes.—A further contribution to this subject has been made by Coppola. These bases were originally regarded by Selmi (*Rendiconti dell' Accad. di Bologna*, 1874), and afterwards by Schwanert (*Ber.*, 1874, 1332), as exclusively products of cadaveric putrefaction. Selmi, however, afterwards modified his opinion so far as to admit that in cases of serious pathological alterations they might be produced in the animal organism during life, a conclusion fully confirmed by Spica. Paternò and Spica, by experiments on blood and on egg albumen, and Gautier by experiments on normal urine, showed that reactions similar to those which had been held to demonstrate the presence of ptomaïnes could be given by presumably perfectly healthy animal fluids ("Periscope," December 1882, pp. 563, 564). Coppola has made a series of experiments on the physiological action of bases extracted from the blood of a healthy dog, and from these he concludes that alkaloids extracted from healthy animal fluids, carefully protected from putrefactive alteration, may exhibit strong toxic properties, and that consequently, whatever idea may be formed of the nature of the putrefactive process, albuminoids must be capable of undergoing certain transformations which may give rise to the formation of poisonous alkaloids. This being the case, it becomes a question whether among these transformations should be included those which albuminoidal substances undoubtedly undergo in the extraction of alkaloids by Dragendorff's process; for if this be the case, it might be alleged that the ptomaïnes are merely products of the decomposition of the albuminoids, brought about either by chemical reagents or by putrefaction ante-mortem or post-mortem; and until some process of extraction shall have been devised incapable in itself of giving rise to the production of such alkaloids, no satisfactory proof can be given of their presence in the normal animal organism.—*Journal of Chem. Soc.*, April 1883, p. 522.

The Double Iodide of Bismuth and Potassium as a Reagent for the Alkaloids.—M. F. Mangini has been making observations with this reagent, which is prepared by mixing 3 parts of iodide of potassium with 16 parts of iodide of bismuth and 3 parts of hydrochloric acid. The reagent thus prepared gives no cloudiness with distilled water, and is so sensitive that it will detect in a liquid the $\frac{1}{100'000}$ gramme of strychnia. He gives the reactions of the principal alkaloids, from which the following may be singled out. Strychnine gives a clear yellow precipitate, the liquid above remaining clear, the precipitate becoming a deep yellow after standing for a time. Brucine gives a golden yellow stringy deposit, the tint of which lessens on standing. With morphine the deposit is yellow-red, the supernatant liquor being clear; but after standing for several hours the precipitate disappears, and the liquid becomes of a canary-yellow. Atropine gives a stringy deposit, which settles down as a reddish-yellow powder. On standing, the precipitate becomes a canary yellow, and is redissolved, colouring the liquid a golden yellow. Aconitine separates at first in flocks, which after a time are deposited as a chrome-yellow powder, whose colour remains on standing, the liquid continuing clear. Veratrine gives a clear yellow precipitate, the intensity of the colour of which becomes less on standing. Sulphate of quinine gives a brick-red precipitate which changes to a dirty white.—*Gazetta Chimica Italiana*, 1882, t. 13, p. 155, and *Soc. Chim. de Paris*, 1882, quoted in *Journal de Pharmacie*, 1883, p. 257.

POISONING BY BORACIC ACID.—Professor Bruzelius (*Hygiea*, xliv. 9, S. 548, 1882) records a case of poisoning by the use of this substance as a medicinal agent. The patient suffered from chronic diarrhœa caught in India, and was treated by an enema twice a-day of 1400 to 1500 cc. (probably 2½ pints) of a 4 per cent. solution of boracic acid, the whole of which, however, was not retained. On the ninth day of the treatment there appeared irritation and injection of the mucous membrane of the nose and pharynx; on the tenth a white fur on the tongue, loaded breath, with abdominal and especially epigastric pain; on the eleventh day there were alternate heats and colds, sleeplessness, and headache, with rectal temperature of 39° C. (102°·2 F.). The enemata were now discontinued. Evening temperature 40° C. (104° F.). On the twelfth day exhaustion came on, accompanied by great headache, prostration, somnolence, but without unconsciousness; the eyes were heavy, and the conjunctivæ injected, especially that of the right eye. Temperature, morning, 39°·8 C. (101°·6 F.); evening, again 40° C. (104° F.). On the thirteenth day the abdomen was sensitive to pressure, the pulse 112, the temperature much as before. On the fifteenth day there appeared a copious erythema over the whole body and face, excepting the parts covered with hair. No desquamation occurred, but during sleep the patient perspired freely. He complained of thoracic oppression and difficulty of breathing, but this without any dulness on percussion, and with only a few subcrepitant râles and feeble respiration in the lower lobe of the left lung. The urine was clear yellow in colour, acid, of specific gravity

1018, and containing boracic acid. Pulse and temperature had fallen, and the patient felt himself better. Delirium, however, was present on the night of the sixteenth day. The erythema disappeared on the eighteenth day, and was followed by petechiæ on the thighs, and urticaria, especially on the forearms and legs, with desquamation and redness of the buttocks. The breath had a peculiar acid smell. The urticaria in turn disappeared in three days, and three weeks after the beginning of the symptoms the patient was quite well. The urine contained boracic acid for eight days after the discontinuance of the enemata.

Previous to the occurrence of this case, Molodenkow (*Wratsch*, 1881, No. 31; *Petersb. Med. Wchnschr.*, vi. 42, p. 361, 1881) related two cases with somewhat similar symptoms, but with fatal termination. In both a 5 per cent. solution of the acid was used for surgical purposes. The first occurred in a woman 25 years of age, in whom thoracentesis had been performed, and who died three days after her pleura had been washed out with the solution. The second, a patient 16 years old, succumbed two days after the solution had been used to wash out a lumbar abscess from which he suffered. In both cases, within a short time of the use of the lotion, vomiting occurred—a symptom which was not present in the case recorded by Bruzelius, and the absence of which was probably due to the less intense form of poisoning in that instance. In both of Molodenkow's patients erythema appeared, and was first noted on the face.

Charles A. Cameron (*Dubl. Journ.*, lxxiv. p. 386, Nov. 1882), in a paper on the poisonous properties of boracic acid, notes that a cow died within a few hours after a dose of borax, in mistake for glauber salt, had been administered to her.

J. Neumann (*Jahrb.*, cxcii. p. 7) calls attention to the poisonous action of large doses of boracic acid in causing paralysis of the nervous and muscular systems in dogs, and in causing gastro-enteritis in rabbits.

Sondén (*Hygiea*, xliv. 3, *Svenska läkaresällsk. förh*, S. 37, 1882) noticed urticaria in a case in which an injection of boracic acid had been used for gastro-enteritis.—Schmidt's *Jahrbücher*, Band 197 No. 1, p. 17.

A CONTRIBUTION TO THE STUDY OF HYDROPHOBIA.—Under this heading M. Paul Bert gives the results of certain experiments made by him in 1878-79, but hitherto unpublished. He found that a complete mutual interchange by transfusion between the blood of a healthy dog and that of a dog in the height of hydrophobia did not communicate the disease to the healthy animal; at least it remained unaffected for a twelvemonth during which it was kept under observation. The rabid animal, however, was benefited by the operation, for it appeared to have gained thereby about two days longer of life. While searching as to which constituent of the saliva it was that contained the poison of hydrophobia, M. Bert inoculated a series of dogs with the mucus taken from the bronchi, and another series with the fluid expressed from the different salivary glands of dogs which had died rabid. The latter series did not contract the disease, but the others, namely, those inoculated with the mucus from the respiratory passages, were all attacked with hydrophobia. These results go far to explain the peculiarities in the action of the saliva of rabid dogs. M. Bert has likewise noticed that although the salivary secretions proper do not communicate hydrophobia, they often cause grave local ailments and large cutaneous sloughs. This condition of things, indeed, prevented him from pursuing these experiments, for in fifteen inoculations there were seven cases of suppuration, in four of which death ensued. It would appear from this that the tissues of rabid animals have septic properties independent altogether of hydrophobia itself. If the buccal contents of a rabid dog be filtered they become inoffensive, but the portion left in the filter communicates the disease, a fact which points to the great likelihood of a microbe as the cause of hydrophobia. The saliva of a rabid dog transforms starch into glucose, exactly as the saliva of a healthy dog would do.—*Ac. de Sc.*, 95, 1253, 1883, quoted in *Journal de Pharmacie*, March 1883, p. 229.

SURGICAL PERISCOPE.

Papilloma of the Bladder.—Dr Joseph Ransohoff reports a case of this nature cured by perineal cystotomy and removal of the tumour. The patient was a young man, æt. 26, who was greatly exhausted by pain and hæmorrhage. His urine was thick and fœtid, alkaline in reaction, and depositing a thick, ropy sediment which frequently contained the formed elements of blood. Examinations by the sound and bimanually, which were so painful that the patient had to be etherized, failed to show the exact nature of the case. In the absence of stone, and without the existence of a previous gonorrhœa to account for the violent cystitis which had developed, the diagnosis appeared to rest between a tumour of the bladder and tuberculosis of the genito-urinary apparatus. Urethral discharge, marked sensitiveness of the neck of the bladder, prostatic enlargement, decided hectic and rapidly increasing emaciation, were strong factors pointing to the existence of tuberculous deposits about the neck and base of the organ. On the other hand, the absence of tuberculous manifestations in the lungs and in the testicles militated strongly against the presence of a primary tuberculosis of the parts involved in the disease. Negative results were got in the examination for tumour by Volkmann's method of "bimanual exploration." The symptoms and signs in favour of the tumour diagnosis were the recurring expulsion of pure blood, its presence in smaller quantity in the urine at short intervals, the pain radiating from the perineum to penis and rectum, and inability to sweep the fundus and sides of the bladder with the beak of the sound. In this state of doubt it was thought relief would be best given by perineal cystotomy, which was performed 19th January 1881. When the bladder was opened and the finger introduced, it at once came in contact with a fleshy mass situated on the posterior wall of the viscus, to the left of the median line. This appeared to be of the size of a small peach, and was firmly attached to the bladder-wall by a broad base, which prevented its removal by the écraseur or wire-loop. A Volkmann's sharp spoon was introduced, and the tumour scraped away. The hæmorrhage was copious, but readily controlled by the injection of hot water. Recovery from the immediate effects of the operation was rapid, but the convalescence slow. Quite a year passed before the urine became normal in character, although frequent injections were used. Examination of the pieces of the tumour revealed the presence of numerous elongated bundles of a loose connective tissue, which were occasionally found to terminate in rounded-off points like those encountered in the papillomata springing from other mucous membranes, and invested upon their exterior by one or two layers of low epithelial cells. The most marked feature of the teased specimens was the great predominance of large capillary loops and meshes, which accounted readily for the frequently recurring hæmorrhages.—*Philadelphia Medical News*, February 10, 1883.

A NEW ABDOMINAL OPERATION—DIGITAL DIVULSION OF THE PYLORUS.—Dr Robert Harris of Philadelphia reports, in the *Medical News* of that city for April 21, 1883, the first four cases on whom this new operation has been performed in Italy within the last few months. The operation has been devised by Professor Loreta of Bologna to meet a class of cases of non-malignant stenosis of the pylorus, which seems to be more common in the south of Europe than in Great Britain or America. An incision, commenced to the right of the linea alba and carried obliquely downwards and outwards over the region of the pylorus, is first made. When bleeding has ceased, the peritoneal cavity is opened into and any adhesions which exist between the omentum and abdominal wall carefully separated. The stomach is then found, its pyloric extremity is drawn out, and an incision made into it between, and at equal distances from, its two curvatures. An index finger is introduced through the wound and made to penetrate the pyloric valve, using, if necessary, pressure and counter-pressure. The other index finger is then inserted, the two set back to back, and an attempt made to stretch the opening. This may fail at first; but usually after a time the parts begin to yield, and the fingers may be gradually separated until the pylorus is widely opened without any laceration. The wound of the stomach is then stitched up with carbolized silk after the manner of Gely or Appolito, the edges of the incision being inverted so as to bring the serous surfaces into apposition in order to secure rapid union. The mucous coat is not included in the sutures. The abdominal wound is then closed. Four patients are reported as having already undergone this operation, two of whom made a good recovery, while the others succumbed to shock. They are, however, said to have been operated on *in extremis;* and it is suggested that in future similar cases should be prepared by rectal alimentation for the operation. In one of the cases that recovered, two plum-stones were removed from the stomach. They were believed to have been retained there for two years, as the patient had been made to suffer so much by the last plums he ate that he had not partaken of any since 1880.

Part Fifth.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS, EDINBURGH. — The following gentlemen passed their final examination for the qualification in Surgery on 20th April 1883, and were admitted L.R.C.S. Edin.:—James Whitton, London; John Clancy, Listowel, Co. Kerry; Frank Sturges, Canterbury; William Guy, Edinburgh; Arthur Herbert Butcher, Porth, near Pontypridd. On the 16th May, Edmund Downes, London, W., also passed his final examination, and was admitted L.R.C.S. Ed.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, EDINBURGH. —The following gentlemen passed their final examination for the double qualification in Medicine and Surgery at the sittings held on 27th April 1883 and subsequent days, and were admitted L.R.C.P. Ed. and L.R.C.S. Ed.:—John William Dunbar Hooper, Edinburgh; Robert Williams, Amlwch, Anglesey; Edward Albert Warren, Edinburgh; William Henry Piercy Fox, Edinburgh; George Hessenauer, London; Hunter Urquhart Walker, Edinburgh; William Henry Harris, Stony Stratford, Bucks; Hartwell Woodhouse James, Edinburgh; Robert M'Call, Edinburgh; Robert Lowry Dickson, Lisnashea, Co. Fermanagh; Richard Macartney, Cinderford, Gloucestershire; Arthur Hawkyard, Wortley, Leeds; Wilton Mills, Whitworth, Lancashire; Thomas Alex. Papillon, Reading, Berks; H. E. Richardson, Glasgow; William John Meharry, Belfast; Edwin Gilmour Knill, London; Henry George Myles, Dublin; Ernest Westbrook, Blackheath, London; Henry Frederic Horne, Newbury, Berkshire; James Hamilton, Castlefire, Co. Donegal; John O'Brien, Knocklong, Co. Limerick; John Allen Carr, Bentham, near Lancaster; William Allen Fisher, Dublin; Edward Esdale Shiels, Edinburgh; Edward Bridges Townsend, London; William Arthur Dickson, Dublin; Lambert Houghton, Kensington, London; Peter Forbes Jardine, Glasgow; Thomas Richardson-Griffiths, Armagh; Thomas Tenison

Collins, Ballinasloe; William Kidd, Hillsborough, Co. Down; Alford Devonald, Carnforth, Lancashire; Cornelius Joseph O'Brien, Dublin; William John Cregan, Belfast; William Robert Fox, London; Henry Crombleholme Bradley, Preston.

ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.—The following gentlemen passed their final examination for the qualification in Medicine on 4th May 1883, and were admitted L.R.C.P. Ed.:—Albert Morris, Teddington; Jas. Ed. O'Hara, Hull; Samuel Cowell Philson, Cheltenham; Thos. Richard Edwards, London; Samuel Camps, London; Chas. Richard Owen, Rushden, Northampton; Frank Oldfield, London; Edward Tatham, London; Rickard Wm. Lloyd, London; Wm. Thos. Partridge, Luton, Beds.

UNIVERSITY OF EDINBURGH.—The following is a complete list of those students who have passed the second professional examination for the M.B. and C.M. degrees of the University of Edinburgh, viz.:—Messrs Charles Aitken, M. S. P. Aganoor, M. S. Altounian, Samuel Arnold, E. H. Bannister, J. B. Batten, D. G. Bennet, Wm. Bird, Robert Blair, Frederick Bond, J. E. Bottomley, C. K. Bourne, Paul Bowes (with distinction), T. M. Buncle, P. B. Bury, J. M. Cadell, Edward Carmichael (with distinction), W. R. Carter, R. L. Clark, J. G. Cossins, R. S. Coulthard, A. S. Cumming, Richard Davidson, T. W. Dewar, W. O. Dow, H. J. Dring, T. G. Evans, H. S. Fairbank, W. C. Faulkner, J. E. A. Ferguson, William Flett, W. G. Galletly, D. J. Galloway, A. R. Gray, F. G. Greenbury, C. D. G. Hailes, P. B. Handyside, E. B. Hector, J. R. Henderson, R. S. Hubbersty, B. E. Iastrzebski, Thomas Johnstone, J. E. H. Kelso, G. H. Kenyon, D. O. Kerr, William Laing, W. S. Lang (with distinction), T. A. Leishman, G. S. P. Loubser, W. W. R. Love, R. H. Lucy (with distinction), C. M. Macalister, W. G. M'Fee, H. J. Mackay, F. W. Mackenzie, N. J. M'Kie, W. R. M'Kinnel, Murray MacLaren, W. H. M'Lean, James M'Leod, John M'Myn, G. D. Malan, Angus Matheson, Alexander Menzies (with distinction), Duncan Menzies, Gustave Michel, David Milligan, Robert Mitchell, A. E. Morison, Daniel Mowat, W. J. Munro, Frederick Murray, J. T. Nesbit, John Noble, F. B. O'Flaherty, James Paterson, R. J. Paton, F. A. Pockley (with distinction), J. M. S. Preston, A. W. G. Price, C. A. Renny, F. G. Retief, John Rigg, John Robertson, A. H. Robinson, F. H. Simmons, William Sneddon, A. C. Stark, J. S. Stephen, H. F. D. Stephens, G. H. H. Symonds, J. C. Taylor, William Taylor, George Thomson, H. A. Thomson (with distinction), T. J. Thyne, C. G. Traill, G. A. Tullis, J. W. O. Underhill, Edmund Walker, N. H. Walker, N. P. Walker, David Wallace, T. A. Watson, S. F. Wernich (with distinction), Algernon Westlake, Claude Wilson (with distinction), J. T. Wilson. J. E. Wolphagen, A. J. Wood.

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